

# **The Marin Countywide Plan**

## **Community Facilities Element Technical Report #1 Provision of Services in Marin County**



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## EXECUTIVE SUMMARY

The Community Facilities Element is an optional general plan element, and a new addition to the Marin Countywide Plan. This technical report presents information about provision of four major community services and facilities: police, fire, water and sewer. In addition, other community facilities are described: hospital care, solid waste disposal, childcare, libraries, and telecommunications.

Two water districts serve the City Centered Corridor: the Marin Municipal Water District (MMWD) and the North Marin Water District (NMWD). The MMWD has reached the limits of its water supply and has prepared a Master Water Plan which estimates future demand and identifies potential water sources.

The NMWD estimates that it will need an additional 5.8 million gallons per day of peak month service capacity by the year 2010, and negotiations are underway with Sonoma County to obtain this capacity. Sufficient water to meet the District's needs already exists in storage reservoirs on the Russian River. The District is working cooperatively with Sonoma County Water Agency and the cities and districts served by the Agency to bring the additional aqueduct capacity on-line prior to 1994 when it will be needed.

In West Marin, the Bolinas Public Utility District (BPUD) has a moratorium in place because the current water capacity is equal to the existing demand. The District will be constructing improvements to the system in order to alleviate this problem. The other West Marin water service agencies appear to have sufficient water supply to serve existing and projected population, although capacity may be restricted in peak demand periods.

Although many of the sewer systems have been upgraded in recent years, problems persist with infiltration in some of the older systems. Some districts will need to undertake major plant expansion projects in order to accommodate development potential. In particular, the Las Gallinas Sanitary District and the Novato Sanitation District will need to expand in order to serve the large parcels which are anticipated to develop within the next ten years.

Fire protection services are generally adequate; however, in some areas the narrow winding roads make access difficult. Many fire districts are requiring sprinkler systems to be installed as a condition of approval of new development.

Other community services such as police protection and school facilities are adequate and can be expanded as the population grows. This technical report examines the availability of community facilities in Marin County.



## **I. PURPOSE**

Although a community facilities element is not required under State law, a local government may emphasize its interest in the provision of services by adopting a community facilities element. It is particularly important to include this element in the Countywide Plan because the availability of facilities and services may influence future levels and locations of development. This technical report examines current supply and demand and also estimates the future availability of service. The Community Facilities Element is based on the information contained in this technical report.

## **II. AUTHORITY FOR COMMUNITY FACILITY PLANNING**

The authority for including optional elements in a general plan is found in the California Government Code, Section 65303, which states:

The general plan may include any other elements or address any other subjects which, in the judgment of the legislative body, relate to the physical development of the county or city.

In addition, the California Government Code, Section 65302(a), requires that all public buildings be shown in the general plan. The Code states:

A land use element which designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land.

Although the location of public buildings and grounds is often included in the land use element, Marin County has chosen to include this information as part of the Community Facilities Element.

## **III. MARIN COUNTY WATER SERVICES**

Table 1 summarizes water availability in Marin County.



**Table 1. Water Availability**

<b>Water District</b>	<b>1987 Supply (Acre-Feet/Year)</b>	<b>1987 Demand (Acre-Feet/Year)</b>
Marin Municipal Water District	30,000	33,000
North Marin Water District	13,950	9,803
Stinson Beach County Water District	323	184
Bolinas Public Utility District	175	175
Inverness Public Utility District	392	95

**A. MARIN MUNICIPAL WATER DISTRICT**

**1. Water Demand**

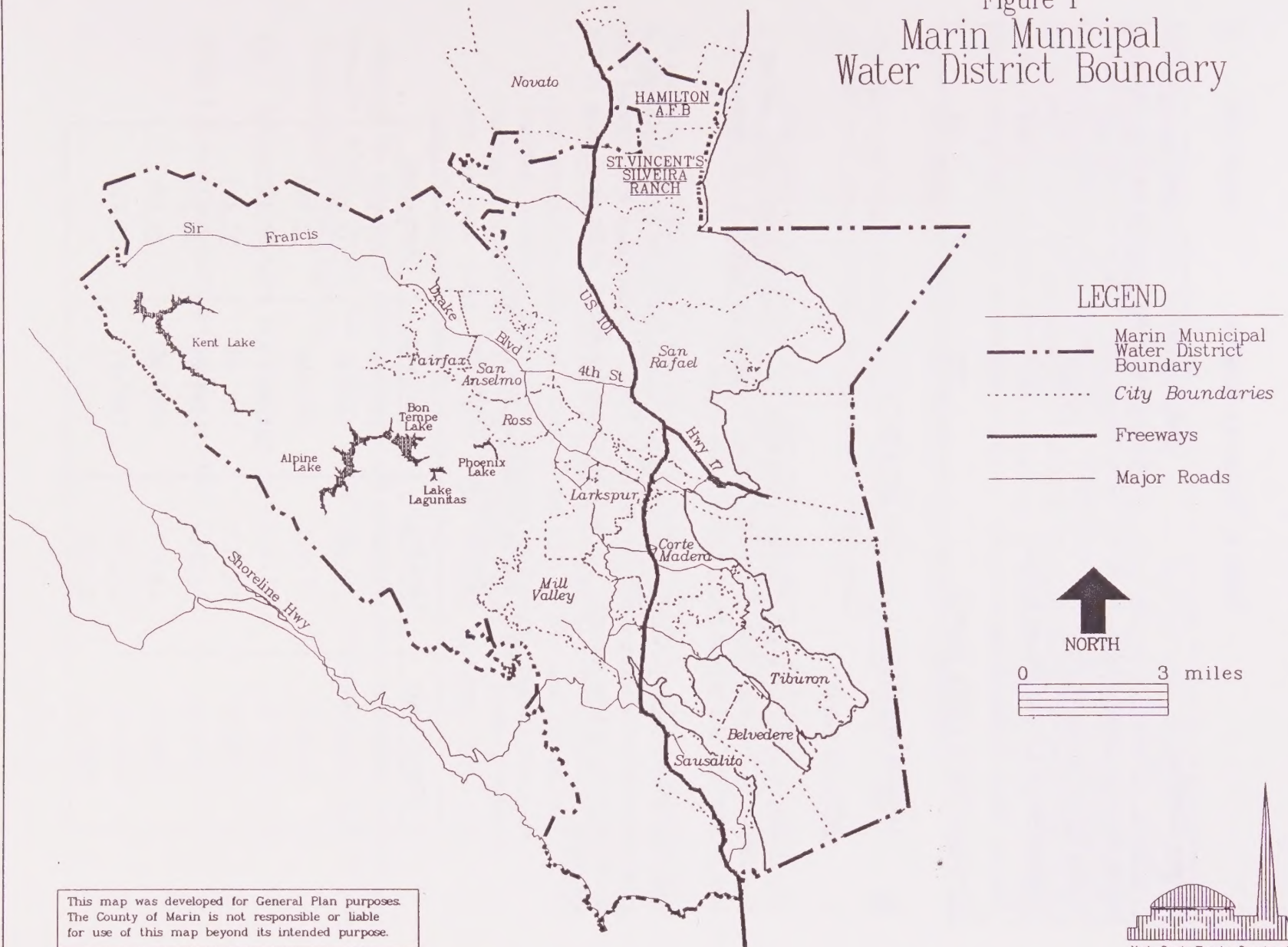
The Marin Municipal Water District (MMWD), in operation since 1911, serves a population of 168,400 through 56,640 service connections within a 146 square mile area in southern and central Marin County (see Figure 1).

Although annual water production dropped precipitously during the 1976-77 drought, it gradually rose to exceed pre-drought levels by 1986. Consumption has dropped with the onset of the current drought. Table 2 illustrates the annual water production for the MMWD.

**Table 2. Marin Municipal Water District:  
Annual Water Production**

<b>Fiscal Year</b>	<b>Acre-Feet</b>	<b>Fiscal Year</b>	<b>Acre-Feet</b>
1974-75	32,275	1983-84	31,295
1975-76	29,066	1984-85	31,989
1976-77	17,663	1985-86	32,566
1977-78	15,042	1986-87	33,056
1978-79	24,363	1987-88	32,845
1979-80	26,604	1988-89	28,555
1980-81	28,577	1989-90	29,392
1981-82	28,255	1990-91	25,210
1982-83	28,357		

Figure 1  
Marin Municipal  
Water District Boundary





The MMWD anticipates that the District will have a population of 192,871 by the year 2025. This population will have an annual water demand of 40,100 acre-feet. The District's current water demand and outstanding water commitments total 35,000 acre-feet of water, 5,000 acre-feet above yield. Consequently a ban on new water hookups was imposed in February, 1988. In addition, the District is actively seeking new sources of water.

## 2. Water Supply

The MMWD obtains its water from seven reservoirs on four watersheds and from an intertie line to the Russian River. The storage reservoirs have a combined capacity of 79,885 acre-feet and are replenished with runoff from the 18,500 acres of watershed lands. Until recently, the intertie contract with Sonoma County Water Agency provided 4,300 acre-feet of surplus water per fiscal year and delivery was limited during peak demand periods. A new agreement has been executed to increase this amount. Over the past year, the MMWD has received 6,714 acre-feet from the Russian River intertie, including emergency water supply from NMWD.

The MMWD can safely supply 30,000 acre-feet annually from its reservoirs and the Russian River intertie. The "safe yield" is the water demand which can be met with reductions in use during drought periods while maintaining 10,000 acre-feet in storage. This definition, in conjunction with a new water supply of 14,000 acre-feet, envisions a 10% reduction in use occurring once in a 25-year period.

## 3. Treatment

Before distribution, water is treated on one of the three treatment plants maintained by the District. Water treated at the Bon Tempe Water Treatment Plant is distributed primarily to southern Marin. Water treated at San Geronimo Water Treatment Plant is consumed in central and northern Marin. Water from the Intertie at Ignacio is adjusted for corrosion control and monitored for quality before being accepted into the northern portion of the service area.

## 4. Distribution

Due to the County's many ridges and steep topography, supplying water to MMWD's customers requires a tremendous amount of pumping. Storage tanks are needed at 200-foot intervals of elevation in order to assure adequate water pressure and fireflow. Developers are required to install all new facilities (pipes, pumps, and tanks) to serve proposed development or provide in-lieu fees for facility development. A developer proposing to extend service into a new undeveloped area with further development potential is required to size the facilities to accommodate the ultimate development

potential of the area. The tanks and main lines are then deeded to MMWD which owns and maintains the entire distribution system up to the property line.

The District's original piping system was a consolidation of 26 individual water systems. Therefore, a number of the MMWD's lines are old and susceptible to leakage. Other lines have an above-average maintenance cost because they lie on steep slopes, bay mud, and landslide-prone areas. Maintenance and replacement of water lines are ongoing concerns of the District and are financed through the sale of water. Large-scale capital improvements have been funded through bond issues and one-time charges.

#### 5. Proposed Improvements

Table 3 shows the District's long-term water demand projections and known sources of water supply and water-saving programs.

**Table 3. Marin Municipal Water District:  
Water Demand Projections for the Year 2025**

Supply	Acre-Feet/Year
Projected Water Demand (year 2025)	40,100
Safe Yield	30,000
Projected Reductions to Water Demand (expanded water reclamation)	2,000
Potential Deficit in Year 2025	8,100

As of January 1992, the MMWD Board of Directors is considering a long-term facilities improvement program to replace outdated facilities, improve operational efficiency of the distribution system, increase the District's water reclamation operations and increase the reliability of the water supply for existing and future consumers. These proposals are presented in the District's 15 Year Capital Projects report and in its Water Supply Master Plan.

In addition, the District has implemented a variety of water-conservation and demand-reduction measures. These efforts will narrow, but not close, the gap between long-term projected demand and supply. The District has completed a Water Supply Master Plan (1989) which identifies the Russian River as a potential source of supplemental supplies.



In response to the 1976-77 drought, the MMWD developed a number of programs to encourage water conservation. These programs include media campaigns, educational materials and training seminars to inform the public about different ways to reduce water usage, including low-flow plumbing devices, low water-use landscaping materials, and landscape irrigation methods. In addition, the District has implemented ordinances that require water-saving devices to be used in new structures and restrict the amount of turf in landscape areas larger than 5,000 square feet.

The District's efforts in the mid-1980s to achieve a 15% reduction in water use through voluntary conservation were not successful when compared with reductions from FY 1975 use during the 1976-77 drought. The MMWD's data on per capita water consumption shows a 19% increase between the periods of 1979/80 and 1986/87. New water hookups, including residential, office, and commercial space, account for roughly 50% of the increase in per capita consumption. An increase in daily water usage by residential customers has caused the remaining 50% increase.

The MMWD Board of Directors has determined that a new water supply of approximately 10,000 acre-feet must be secured in the near future. Of the 10,000 acre-feet, 5,000 would be used to relieve the current deficit and the remaining 5,000 would be available for new development. The District is pursuing funding sources for the improvements in the system, as well as for the development of new supplies. The source for this supply is expected to be from outside Marin County. The most likely long-term source is the Russian River. Once these or other sources are secured, funds will have to be raised through a bond election or other means to construct necessary pipelines.

## B. NORTH MARIN WATER DISTRICT

### 1. Water Demand

The North Marin Water District (NMWD) was formed in 1948 to provide water to the City of Novato and surrounding areas. Today the District serves a Novato area population of 52,000 in addition to 1,500 customers in West Marin. The District area is approximately 75 square miles (see Figure 2).

Annual water production for the NMWD in 1986/87 was 9,803 acre-feet. Water demand in the District has risen steadily since 1980 largely due to growth in the Novato area. The NMWD uses Countywide Plan population projections in conjunction with its own data on past trends in usage and types of users to project future levels of water demand. Based upon regression analysis and projection of historical consumption trends from 1955 to the present, the District projects an annual water demand of 16,100 acre-feet and a peak month demand of 21.6 million gallons per day by the year 2010.

**Table 4. Water Production for NMWD**

<b>Fiscal Year</b>	<b>Acre-Feet</b>
1980-81	8,507
1981-82	8,183
1982-83	8,125
1983-84	9,253
1984-85	9,436
1985-86	9,351
1986-87	9,803

2. Water Supply

The NMWD has two sources of water supply: Stafford Lake and water imported from the Sonoma County Water Agency. Stafford Lake, a reservoir located within the district boundaries, has a storage capacity of 4,400 acre-feet. The lake provides a normal annual yield of 2,000 acre-feet, approximately 20% of the District's total annual demand, and the balance of the District's annual demand, 7,800 acre-feet, is obtained through contract with the Sonoma County Water Agency. The safe long-term annual yield of Stafford Lake is 1,400 acre-feet. Water is produced from the lake only during the summer months in order to optimize the peak month yield from the lake. On a sustainable yield basis, limited by watershed runoff, peak month yield is 4.6 million gallons per day. As for the Russian River source, the District is only restricted in how much it can take from the Sonoma County Water Agency by its peak month entitlement in the Russian River Aqueduct system. In 1989, the District had a peak month entitlement of 11.2 million gallons per day. If used to the maximum, the District could draw 12,500 acre-feet from the Sonoma County Water Agency. Thus the District's safe annual yield is presently 13,950 acre-feet. In 1987, the District used 7,900 acre-feet of Sonoma County water and consumed 1,900 acre-feet of Stafford Lake water (70% of the available supply). The District's maximum sustainable peak month production capacity is 15.8 million gallons per day. In 1987, the District produced 12.6 million gallons per day to meet peak month demand (79% of peak month demand). Water from the Sonoma County Water Agency is treated before it is pumped to the District. Stafford Lake water is purified at the Stafford Lake treatment plant located near the lake.

The NMWD supplies water to several communities in West Marin, including Point Reyes Station, the National Park Headquarters, Inverness Park, and Olema. The water supply comes from shallow wells on the bank of Lagunitas Creek. The District



produces approximately 300 acre-feet of water per year for West Marin, with consumption increasing very slowly over time due to the area's limited growth potential. During normal rainfall years, the creek's net outflow well exceeds local demand. However, as a safeguard against low flows in a critically dry year, the District has a contract with MMWD to release reservoir water. The NMWD can "repay" the MMWD for such emergency water with Russian River water delivered to MMWD where the two systems connect in the south Novato area.

### 3. Proposed Improvements

The NMWD is presently negotiating with the Sonoma County Water Agency for an additional water entitlement of 5.8 million gallons per day (6,500 acre-feet). This would bring the total safe annual yield of the District to 20,450 acre-feet and increase the District's total peak month production capacity to 21.6 million gallons per day the projected amount of peak month capacity needed by 2010. Since the District estimates its service area may ultimately require an additional 1.8 million gallons per day of peak month capacity, the District has implemented an aggressive demand management program aimed at reducing demand by 15% through permanent conservation techniques. This will reduce the District's ultimate peak month demand to 19.9 million gallons per day. The result is a comfortable surplus of 1.7 million gallons per day.

The District's service capability is limited by the peak month demand. Presently, the aqueduct distribution system capacity is insufficient to meet the District's projected peak month demands and the District is working with the Sonoma County Water Agency and the other cities and districts the Agency serves, to construct improvements to the aqueduct system over the next five years. These improvements include additional pumping plants and construction of some additional interconnecting aqueducts to make the existing system more efficient. These improvements are planned to come on-line well ahead of the date needed in order to avoid disruption of service to the District's customers.

## C. STINSON BEACH COUNTY WATER DISTRICT

### 1. Water Demand

The Stinson Beach County Water District (SBCWD), formed in 1962, is ten square miles in area (see Figure 3). The District presently serves water to 600 connections including residential, commercial, and State and Federal Park recreational uses. District facilities include wells and other collection facilities, mains, storage tanks, and a water treatment plant.

Figure 2  
North Marin County  
Water District Boundary

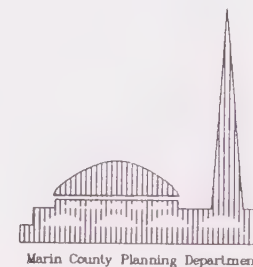
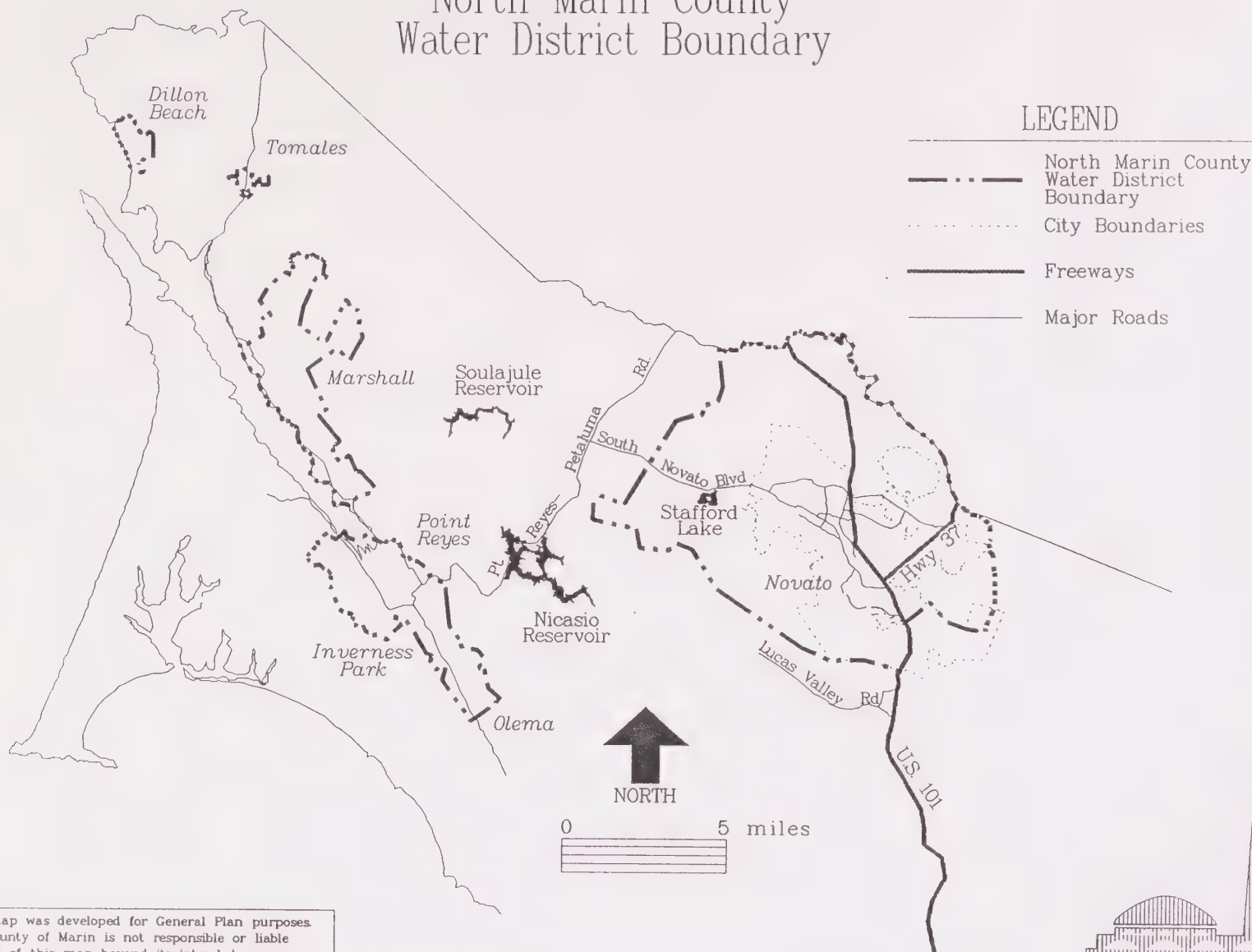
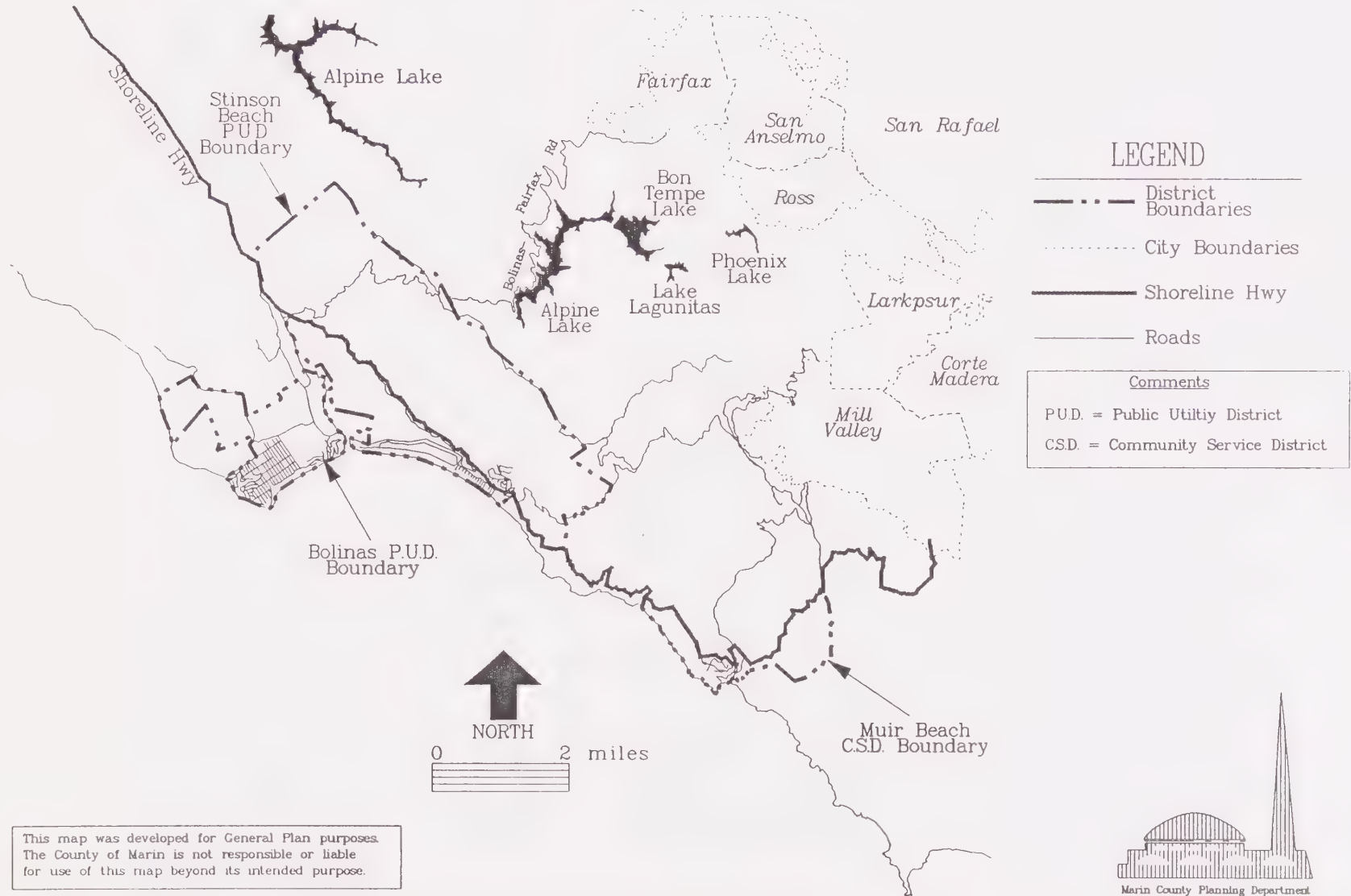




Figure 3  
Stinson Beach, Bolinas and Muir Beach  
Water Service Boundaries



An important component of the District's water demand is summertime weekend visitors to the Stinson Beach recreational area which includes the beach, picnic areas, hiking trails in the Golden Gate National Recreation Area, and the State Park hostel cabins located in Steep Ravine.

The SBCWD produced 184 acre-feet of water in 1987. Water demand is estimated by the SBCWD to be approximately 300 gallons per day per dwelling unit. Growth potential in the District is limited by the publicly-owned lands which surround the community. The District estimates there is a potential for 160 additional dwelling units before the town is built out.

## 2. Water Supply

Sources of the SBCWD's water supply include three active wells, two reserve wells, and catchment basins located in the District's watershed lands. The watershed is owned publicly by the State and Federal governments. The District treats the water before distribution. A conservative estimate of the SBCWD's annual water supply is 323 acre-feet, assuming normal rainfall conditions. Based upon the District's demand projections, water supply is more than adequate, although supply can be constrained by drought conditions and by peak summertime water demand. Between 1978 and 1984, the District implemented a \$3 million capital improvement program to upgrade its entire plant, in the process creating 1.5 million gallons of storage capacity.

## 3. Proposed Improvements

Other than minor line replacement needs, the SBCWD has in place all the capital facilities it needs at this time.

# D. BOLINAS COMMUNITY PUBLIC UTILITY DISTRICT

## 1. Water Demand

The Bolinas Community Public Utility District (BCPUD) provides water collection, treatment, and distribution services to 581 connections. Of these 581 connections, three are agricultural, 19 are commercial, and the remainder are residential. The District boundaries are shown in Figure 3. In 1987, the BCPUD produced 175 acre-feet of water.



## 2. Water Supply

The BCPUD has two sources of surface water supply: the Arroyo Hondo stream which provides 135 acre-feet of water and two storage reservoirs which have a combined net safe yield of 40 acre-feet. The District also has two water treatment plants, one for stream water and the other for water taken from the storage ponds. Generally, the treatment systems are in fair condition. A 1986 engineering study recommending a number of minor improvements for the plants may have given too much weight to cost considerations at the expense of real improvement. The District has undertaken some of these recommendations without noticeable benefit. More stringent Federal and State regulations soon to be imposed on purveyors of surface water coupled with the existing deficiencies in the treatment facilities may necessitate capital improvements costing in excess of \$250,000.

For six to seven months of the year, sufficient water supplies can be drawn from the stream. During the dry season, this source must be augmented by the storage ponds.

The age of the District's distribution system ranges from 2 to 63 years old. Although the District has replaced a substantial amount of older pipeline, approximately 15% to 20% of the water is lost to leakage. The cost to replace remaining older pipes and increase pipeline capacity where needed was estimated at \$1.5 million in 1989. In 1988, the District established a modest reserve fund to continue this important pipeline replacement work.

Another operational concern of the District is the stream water turbidity caused by heavy winter storms. Suspended particles and debris generated by storms can overload the capability of the treatment plant to properly purify the stream water. In 1988, the District modified treatment plant water filters with the hope of improving the situation. Although this problem is seasonal, it has proved difficult for the District to resolve.

In 1971, the community of Bolinas enacted a building moratorium because of the lack of adequate water storage capacity. Since that time, the BCPUD has constructed the two present water storage facilities. However, the community continues to enforce the "water shortage emergency condition" which forbids new water hookups because engineering studies indicate that present facilities may not be sufficient for future needs. An engineering study conducted for the BCPUD recommends that 80 to 120 acre-feet of storage capacity be built to accommodate present and future water demands.

### 3. Proposed Improvements

The 1985 Bolinas Community Plan contains a policy for providing infrastructure improvements to the community's water and sewer systems. Although water storage capacity improvements are projected to occur in approximately five years, the BCPUD feels that this schedule is optimistic and depends on the ability to obtain grants as well as local political support. Any service improvement plan must be first approved by the local electorate.

#### E. INVERNESS PUBLIC UTILITY DISTRICT

##### 1. Water Demand

The Inverness Public Utility District (IPUD) serves 485 connections, or approximately 540 "Residential Unit Equivalents" (RUEs). A RUE is a measurement which allows commercial and residential users to be grouped together. The IPUD collects surface water from District and State-owned watershed lands. The District boundaries are shown in Figure 4. The District's facilities include three water filtering plants, water catchments, mains, and storage tanks. In 1990, the IPUD replaced a 20,000 gallon storage tank with a 70,000 gallon tank which increased the total storage capacity to 345,000 gallons. The District estimates that the supply should be able to meet peak weekend demand under normal and dry conditions since this amount exceeds the highest demand levels recorded since it acquired the water system in 1980.

The IPUD produces 95 acre-feet of water per year. Approximately 85 acre-feet are consumed by local users and ten acre-feet are reserved for system overhead, unmetered use, and leakage losses.

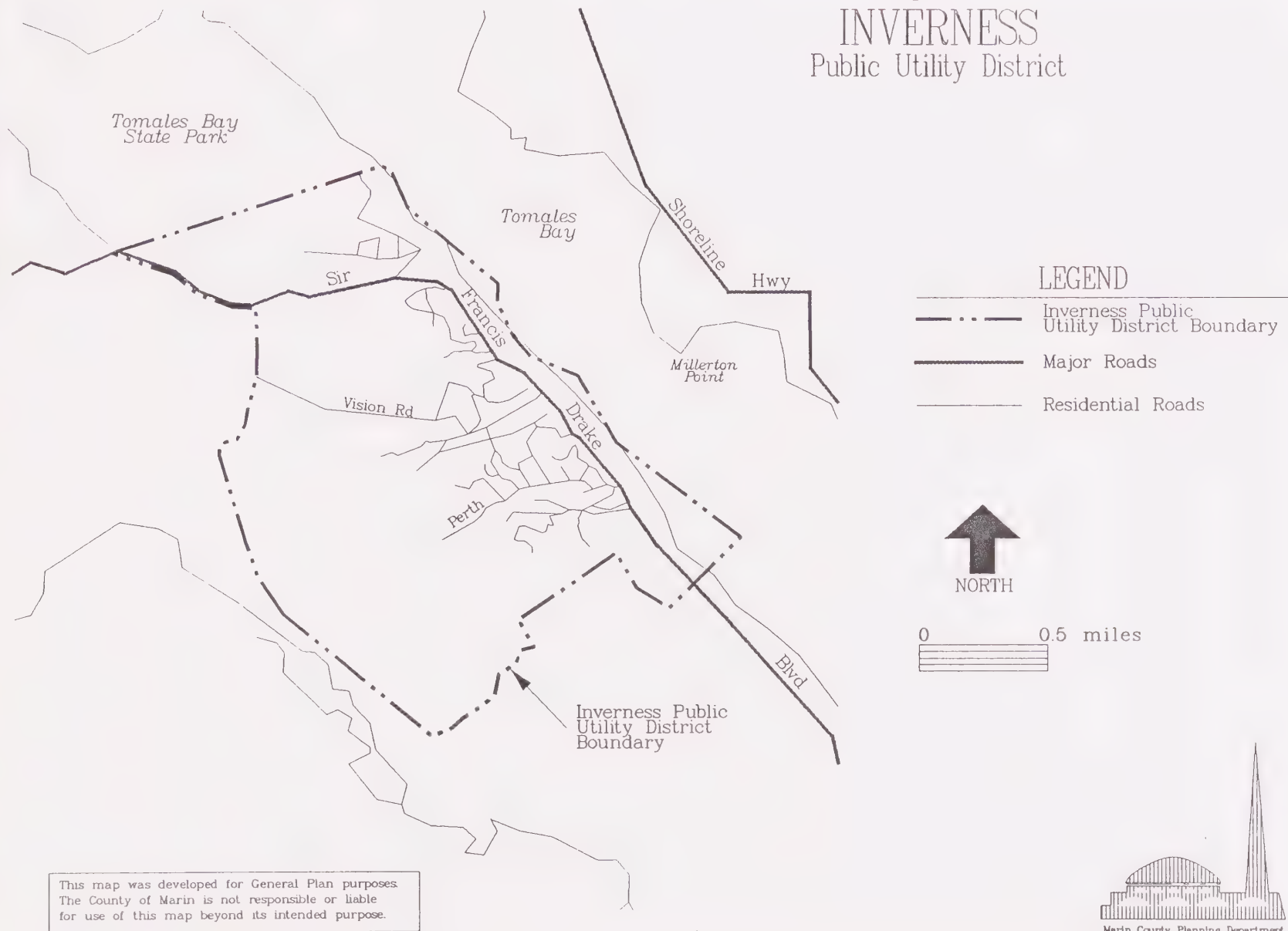
Future growth within the District is limited by the Point Reyes National Seashore and Tomales Bay State Park which surround the community. The IPUD estimates that ultimate development will be 600 RUEs, a 10% increase over present service demand.

##### 2. Water Supply

The IPUD's water supply consists of water from streams in the surrounding watershed and the District believes that adequate water supplies exist for the next thirty years under normal rainfall conditions. Water supply problems may arise during summer peak use periods and during drought conditions. The District has implemented a peak demand conservation program which resulted in a drop from 48% to 12% in the weekly variation in customer demand. The District currently maintains an emergency water agreement with the North Marin Water District.



Figure 4  
**INVERNESS**  
Public Utility District



#### F. MUIR BEACH COMMUNITY SERVICES DISTRICT

The Muir Beach Community Services District serves approximately 150 residences. The District relies on groundwater pumped from wells located in the Frank Valley. Water supply is limited, particularly in dry months, and this may limit future development.

#### G. DILLON BEACH COMMUNITY

Water service in the Dillon Beach Community is provided by two privately owned water companies: Coast Springs Water Company and Estero Mutual Water Company. Estero Mutual has two wells which together supply approximately 10,000 gallons per day (gpd). In addition, Estero Mutual has the facilities and necessary permits to divert up to 400 gallons per minute from a stream tributary of Estero de San Antonio. Water is stored in a reservoir with a capacity of 16 million gallons, or 49 acre-feet.

The Coast Springs Water Company has 200 service connections. Water demand per unit for average and peak use in 1985 were recorded at 96 gpd and 170 gpd respectively. Coast Springs water supply comes from three sources: (1) a large well located in the channel of Dillon Creek Gulch capable of producing 18,000 gpd, depending on creek flow; (2) six vertical wells; and (3) an infiltration tunnel. These three sources combined are capable of providing a sustained yield of 33 gallons per minute (gpm).

### IV. MARIN COUNTY WASTEWATER SERVICES

#### A. SEWERAGE AGENCY OF SOUTHERN MARIN (SASM)

The SASM includes the following agencies (see Figure 5): Richardson Bay Sanitation District, City of Mill Valley, Tamalpais CSD, Alto Sanitary District, Almonte Sanitary District, and Homestead Sanitary District.

The purpose of SASM was to facilitate expansion and improvements to the Mill Valley treatment plant. These improvements were completed in 1983. All wastewater from the member agencies is treated at the Mill Valley treatment plant (a secondary treatment facility), and discharged via a deep water outfall in Raccoon Strait. Substantial improvements were also made to each member agency's collection system through a grant obtained by SASM in 1986.

The City of Mill Valley contracts with SASM to provide administration. The Plant Manager is on the City's staff. Each agency is responsible for administering the sewage collection system in its district. Wastewater is then transported to the Mill



Valley treatment plant. The six member agencies receive a capacity allocation based upon 1980 estimates of service requirements.

The plant is designed to process a maximum dry weather flow of 2.90 million gallons per day. Average dry weather flows during 1985-87 were 2.58 million gallons per day or 89% of plant capacity (see Table 5). It is estimated that plant capacity may be exceeded in 10 to 20 years.

#### B. SANITARY DISTRICT #5 (Tiburon Area)

Sanitary District #5 is responsible for the collection and treatment of sewage, as well as maintenance of facilities (see Figure 6). The District serves the portion of Tiburon east of Trestle Glen and as far north as Paradise Cove. In 1984, the treatment plant was upgraded from a primary to a secondary treatment facility. After treatment, the effluent is discharged 400 feet offshore into Raccoon Strait. The same outfall line is also utilized for wastewater treated at the SASM plant in Mill Valley.

**Table 5. Sanitary Treatment Plant  
Design Capacities (Dry Weather)**

Agency	Capacity (MGD)	Flows (MGD) (1987)	Capacity Remaining (1987)	Capacity Reached (Year)
Sausalito/Marin City	1.73	1.50	13 %	2001
SASM	2.90	2.60	10 %	2003
Sanitary District #5	0.98	0.75	23 %	2001
CMSA	10.00	7.90	21 %	2001
Las Gallinas San. District	2.92	2.55	13 %	1996
Novato				2001
"Novato"	4.60	3.14	32 %	
"Ignacio"	2.10	1.63	22 %	
Bolinas P.U.D.	.07	.03	54 %	2000

Figure 5  
SEWER AGENCY of  
SOUTHERN MARIN (SASM)  
MEMBER AGENCIES

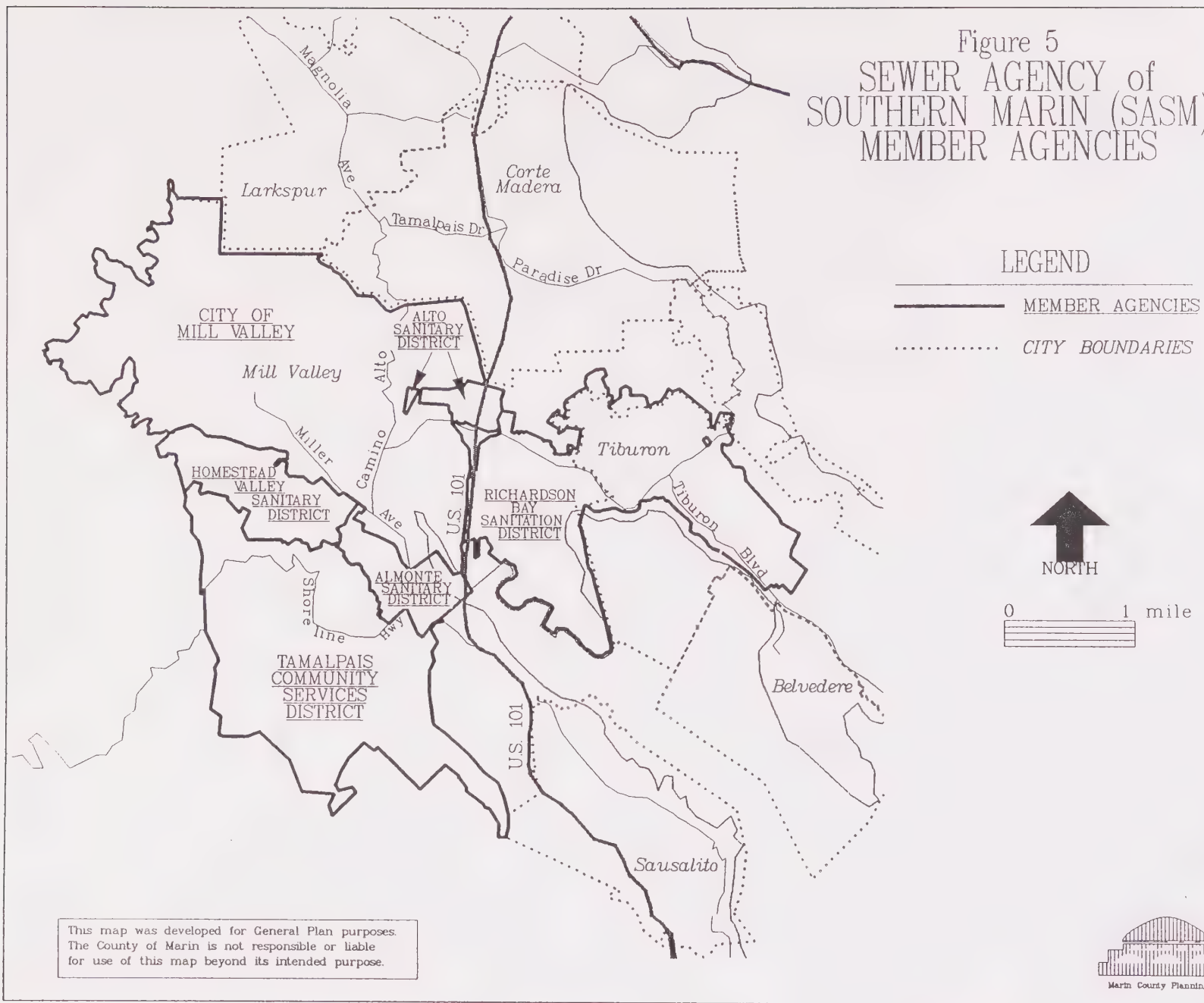
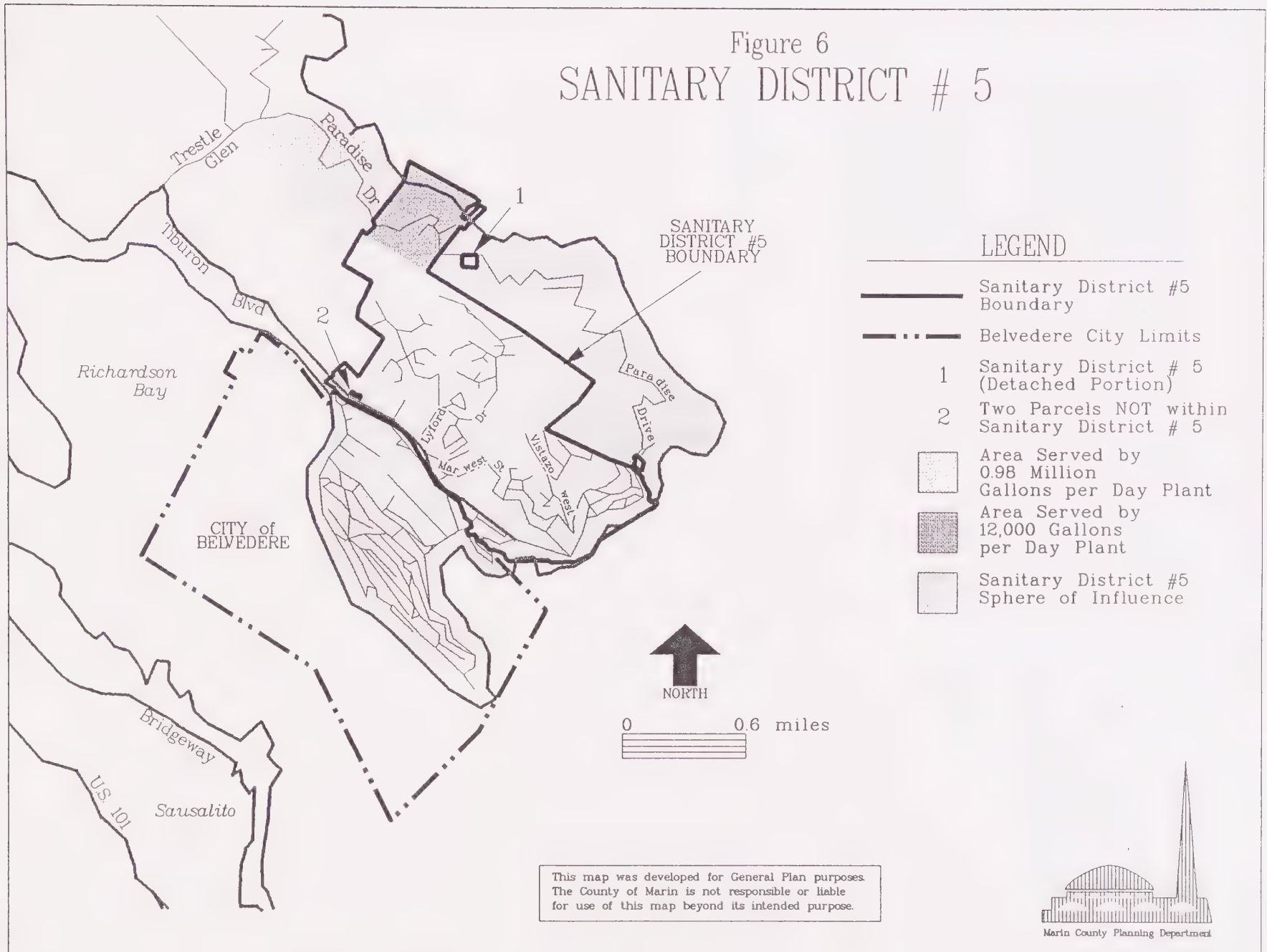




Figure 6  
SANITARY DISTRICT # 5



The plant was designed to accommodate the 1991 population projection of 9,787, based upon the town's 1979 zoning ordinance. Because the District believes excess treatment plant capacity exists, the town approved reductions in previous zoning densities (source: ABAG). The facility can process an average daily dry weather flow of 0.98 million gallons per day. In 1987, average dry weather flows from Tiburon, Belvedere, and small pockets of unincorporated areas were 0.75 mgd or 77% of plant capacity (see Table 5).

Sanitary District #5 has an ongoing capital improvement program. Included in this program are plans to overhaul one of the District's nine pump stations each year. Significant improvements were made to the District's sewer lines when the treatment plant was upgraded. As a result, wet weather infiltration averages less than five million gallons per day while the treatment plant is designed to handle wet weather flows up to 6.3 million gallons per day.

This district also maintains contracts with Belvedere to provide routine maintenance of pump stations, emergency maintenance service and treatment of wastewater. Belvedere maintains its own collection system.

Belvedere has an ongoing capital improvement program and recently replaced old lines throughout its wastewater system. The result of these efforts has been to substantially reduce salt water and storm water infiltration into the system. The hilly terrain makes it necessary to operate a large number of pump stations, which are expensive to maintain. Belvedere has just completed a program to overhaul all fifteen pump stations.

Sanitary District #5 also operates a small secondary treatment plant which can process 11,000 gallons per day and serves a subdivision near Paradise Cove. This treatment plant could eventually handle future development located between Trestle Glen and Playa Verde, however, very little additional capacity exists in the plant. Major improvements would be required before the treatment plant could handle a significant amount of future development.

#### C. SAUSALITO/MARIN CITY SANITARY DISTRICT (SMCSD)

The SMCSD provides wastewater treatment for the City of Sausalito, Marin City (see Figure 7), and portions of the Tamalpais Community Service District. The SMCSD will also maintain the collection system in Marin City, once improvements have been completed. The treatment plant was upgraded from a primary treatment plant to a secondary treatment plant in 1986.



Figure 7  
SAUSALITO-MARIN CITY  
SANITATION DISTRICT (SMCSD)

LEGEND

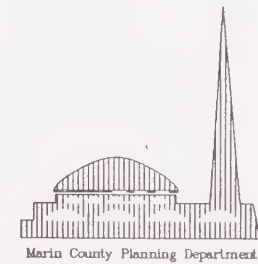
- Sausalito-Marin City Sanitation District  
- - - Sausalito City Limits



0 0.5 miles



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Marin County Planning Department

Effluent is discharged to bay waters via a deep water outfall. The plant provides for a maximum dry weather flow of 1.73 million gallons per day (see Table 5). In 1987, average daily dry weather flows were approximately 1.5 million gallons per day. Based on a population projection (source: ABAG) of 20,657 for the District (and assuming 90 gallons per capita per day) the treatment plant will need to handle 1.89 million gallons per day by 2001.

The District's consulting engineers believe that additional capacity may exist because the large size of settling tanks designed to accommodate high wet weather flows will allow larger dry weather flows to be processed. In a few years, the maximum capacity will be recalculated and the District may apply for a revision to its operating permit with the Bay Area Regional Water Quality Control Board.

In 1984, the SMCSO began making substantial improvements to the trunk lines in the north end of the District's service area. Further capital improvements are scheduled for 1988, including construction of a relief force main for the gravity sewer in Sausalito to divert storm infiltration flows from the gravity sewer lines and "slip lining" a 14,000-foot section of old force main north of Marin City into Tamalpais Valley. These improvements will not increase the system's capacity but will allow it to handle present peak flow conditions more safely.

#### D. CENTRAL MARIN SANITATION AGENCY (CMSA)

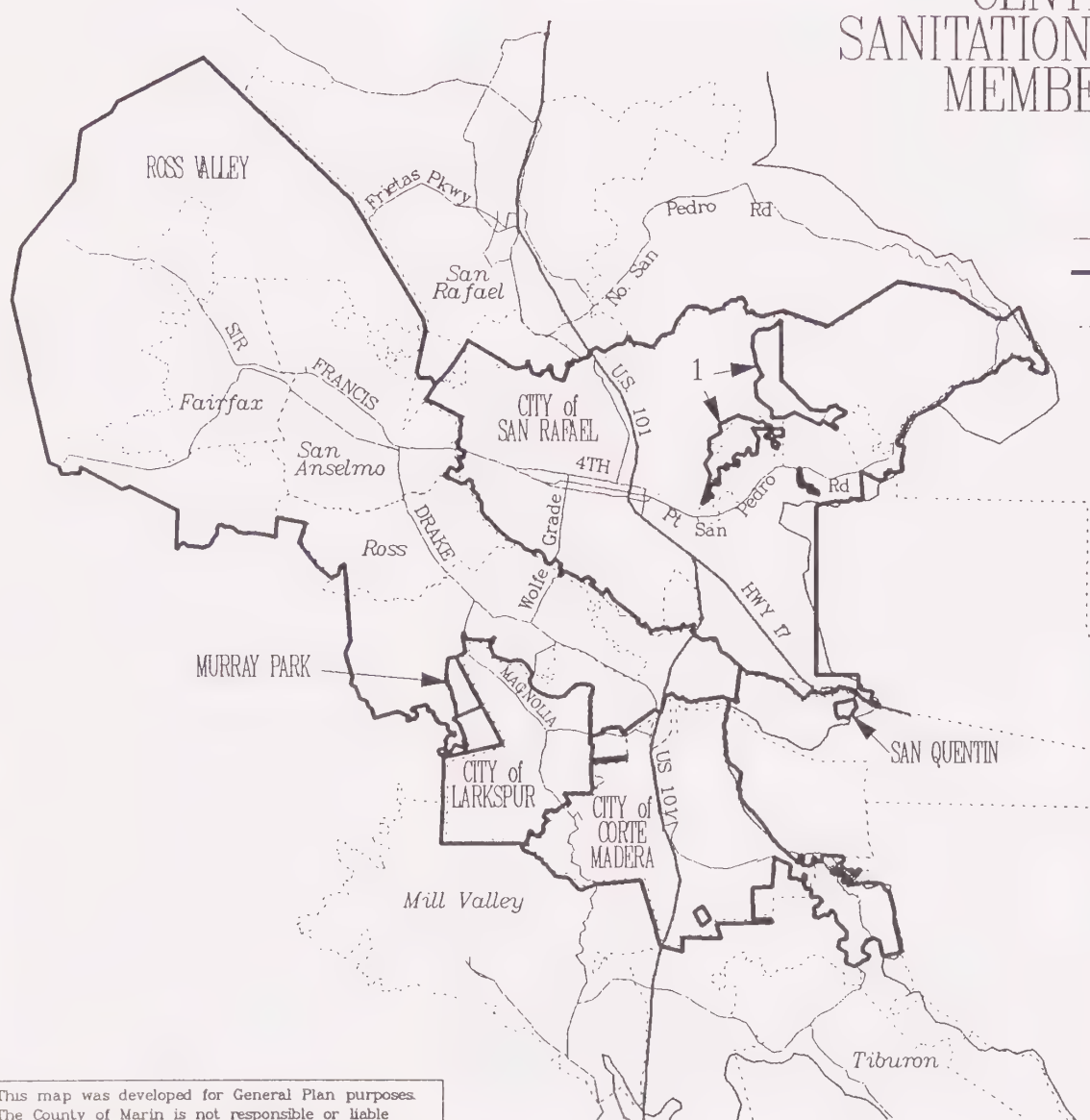
The CMSA has the following member agencies (see Figure 8): Sanitary District #1, Sanitary District #2, City of Larkspur, and the San Rafael Sanitation District.

The CMSA was formed under a joint powers agreement in 1979. The purpose of the agency was to oversee planning, construction, and operation of a new and improved wastewater treatment plant for agencies in central Marin. The CMSA treatment plant was completed in 1985 and is located on the north side of Point San Quentin.

The plant was designed to handle a population of 97,982 by the year 2001. The dry weather design capacity is ten million gallons per day. In 1987, dry weather flows were 7.9 million gallons per day (see Table 5). After a few years of experience operating the new treatment plant, the CMSA believes that its actual processing capacity may exceed ten million gallons per day. Before additions to the plant are considered, the plant's operating capacity needs to be reevaluated.



# Figure 8 CENTRAL MARIN SANITATION AGENCY (CMSA) MEMBER AGENCIES



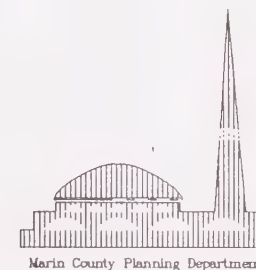
## LEGEND

- MEMBER AGENCIES
- ..... City Boundaries
- 1 Areas NOT included in CMSA



0 2 miles

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#### E. . SANITARY DISTRICT # 1 (Ross Valley)

Sanitary District #1 provides transportation of effluent and system maintenance for Ross, San Anselmo, Fairfax, parts of San Rafael and Larkspur, and unincorporated areas including Kentfield, Kent Woodlands, Sleepy Hollow, Oak Manor, Greenbrae, and San Quentin Prison.

The District maintains gravity lines, pressure lines and sixteen pump stations. Many parts of the collection system are 80 to 100 years old. Infiltration has always been a major problem and affects most of the system. The District maintains ongoing capital improvement programs, budgeted at \$1 million per year, to expand lines to eliminate or accommodate infiltration.

The large pump stations are new and the smaller pump stations are being upgraded. The lines appear to be capable of accommodating the development potential in the District, given the improvement programs underway. The wastewater is pumped to the Central Marin Sanitary Agency (CMSA) treatment plant at Point San Quentin. The CMSA treatment plant is discussed above.

#### F. SANITARY DISTRICT #2 (Corte Madera and Tiburon)

Sanitary District #2 serves an area which is approximately 4.5 square miles, including most of Corte Madera and a small portion of Tiburon. The Sanitary District operates a sewer collection system which feeds into the CMSA treatment plant. The District has 15 pump stations. The District raised user fees in the late 1980s in order to replace its line under Corte Madera Creek, upgrade three pump stations, and replace a section of a force main. Future maintenance and improvements will involve upgrading the District's pumping capacity into the CMSA system during wet weather and ongoing maintenance for lines located in lands underlain by bay mud, where differential settlement occurs.

#### G. SEAFIRTH TREATMENT PLANT

Between Corte Madera and Tiburon is the Seafirth treatment plant, a small private plant serving approximately 100 homes (see Figure 8). The plant has had ongoing operating problems and residents have requested annexation to either Tiburon or Corte Madera. Neither city has agreed to annexation in part due to difficulties in providing sewer service. Sanitary District #2 indicates that it declined to provide service because sewage from this area would have to be pumped several times over a fairly long distance to join its system. This could create health hazards. The Local Agency Formation Commission is presently looking into the situation.



#### H. LARKSPUR DEPARTMENT OF PUBLIC WORKS (LDPW)

The Larkspur Department of Public Works provides for collection of sewage within Larkspur south of Corte Madera Creek, and by contract with Murray Park Sewer Maintenance District. The LDPW maintains all lines and its three pump stations. Sewage is pumped to the CMSA treatment plant.

The LDPW has recently completed reconstruction of its main pump station. The other two pump stations are also in good condition. The City's sewer mains have had some problems with wet weather infiltration and a study needs to be done to pinpoint sections of pipeline that are subject to leakage. Despite these infiltration problems, the system is adequate to serve the population anticipated at buildout.

#### I. SAN RAFAEL SANITATION DISTRICT (SRSD)

The SRSD provides wastewater collection to the central and eastern portions of San Rafael. The sewage is pumped to the CMSA treatment plant at Point San Quentin. The SRSD has recently completed a study which identifies the need for significant improvements. These improvements include reducing wet weather infiltration, increasing sewer line capacity in the Peacock Gap area, and increasing the pumping capacity in numerous areas.

#### J. LAS GALLINAS VALLEY SANITATION DISTRICT (LGVSD)

The LGVSD treatment plant was upgraded in 1983 (see Figure 9). During the summer months, the treated wastewater is used to irrigate approximately 300 acres of District owned pasture lands. The maximum dry weather flow design capacity is 2.92 million gallons per day. In 1987, dry weather flows were 2.55 million gallons per day (see Table 5). The wet weather flows are not a major concern in this area due to the improvements made to the collection system.

With the growth projected for the Northgate area, the plant is expected to be at capacity by 1992. Minor plant expansion could be accomplished in about three years which would expand capacity to 3.3 million gallons per day (average dry weather flow). However, any additional development, such as the St. Vincent's/Silveira property, would require a more major expansion project. Such a project would also require purchase of additional land for waste water irrigation. This expansion would cost between \$5 million and \$10 million.

Figure 9  
LAS GALLINAS VALLEY  
SANITARY DISTRICT

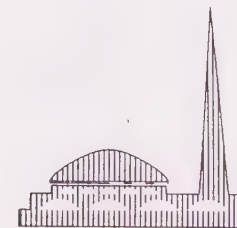
LEGEND

- Las Gallinas Valley Sanitary District  
..... City Boundaries

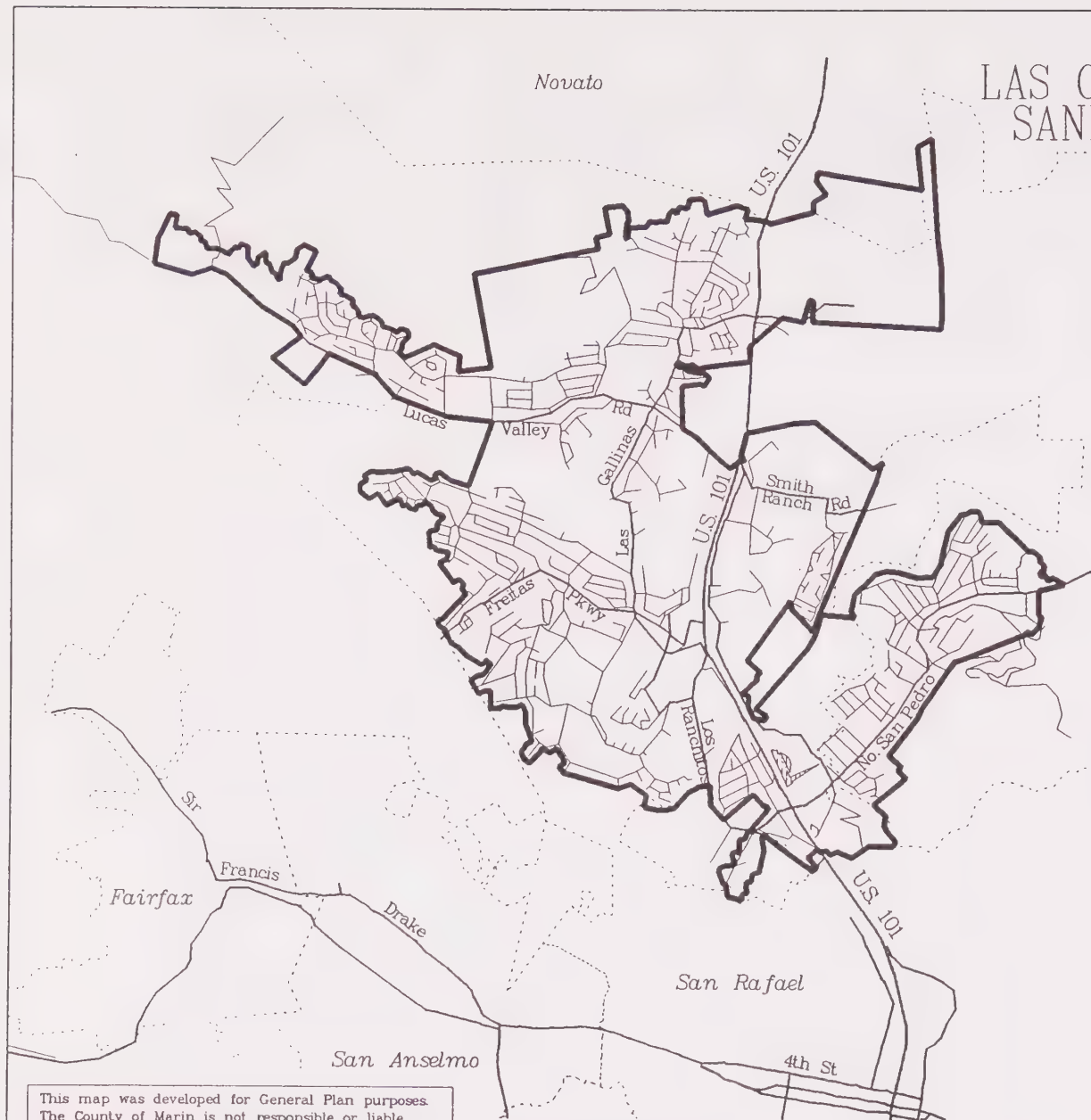


NORTH

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Marin County Planning Department



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## K. NOVATO SANITARY DISTRICT (NSD)

The NSD operates two treatment plants: Novato and Ignacio (see Figure 10). The District serves approximately 57,517 people. The Novato plant was upgraded in 1987 and provides tertiary treatment (nitrification and filtration). This plant has a maximum dry weather flow capacity of 4.6 million gallons per day and sufficient capacity to meet buildout as projected by the Novato General Plan to the year 2001. The Ignacio plant had major improvements completed in 1986. This plant has a 2.1 million gallons per day dry weather flow capacity (see Table 5).

Both plants discharge treated wastewater into the near shore waters 1,100 feet beyond Hamilton Air Force Base during wet weather months. During dry weather, the treated wastewater is used to irrigate 1,000 acres of District-owned pasture lands. The irrigation program, which has been operating since 1986, provides environmental benefits and has proven to be a financial success for the District.

Both District sewage treatments plants were sized to handle 1978 ABAG population projections to 1991. However, since population growth has been less than expected, the Novato plant is expected to have capacity beyond 1991. The Ignacio plant will serve development at the Hamilton Air Force Base. The plant will need improvements in order to provide better water quality and increase capacity.

As of the update of this report, the District had nearly completed a major capital improvements program initiated in 1970.

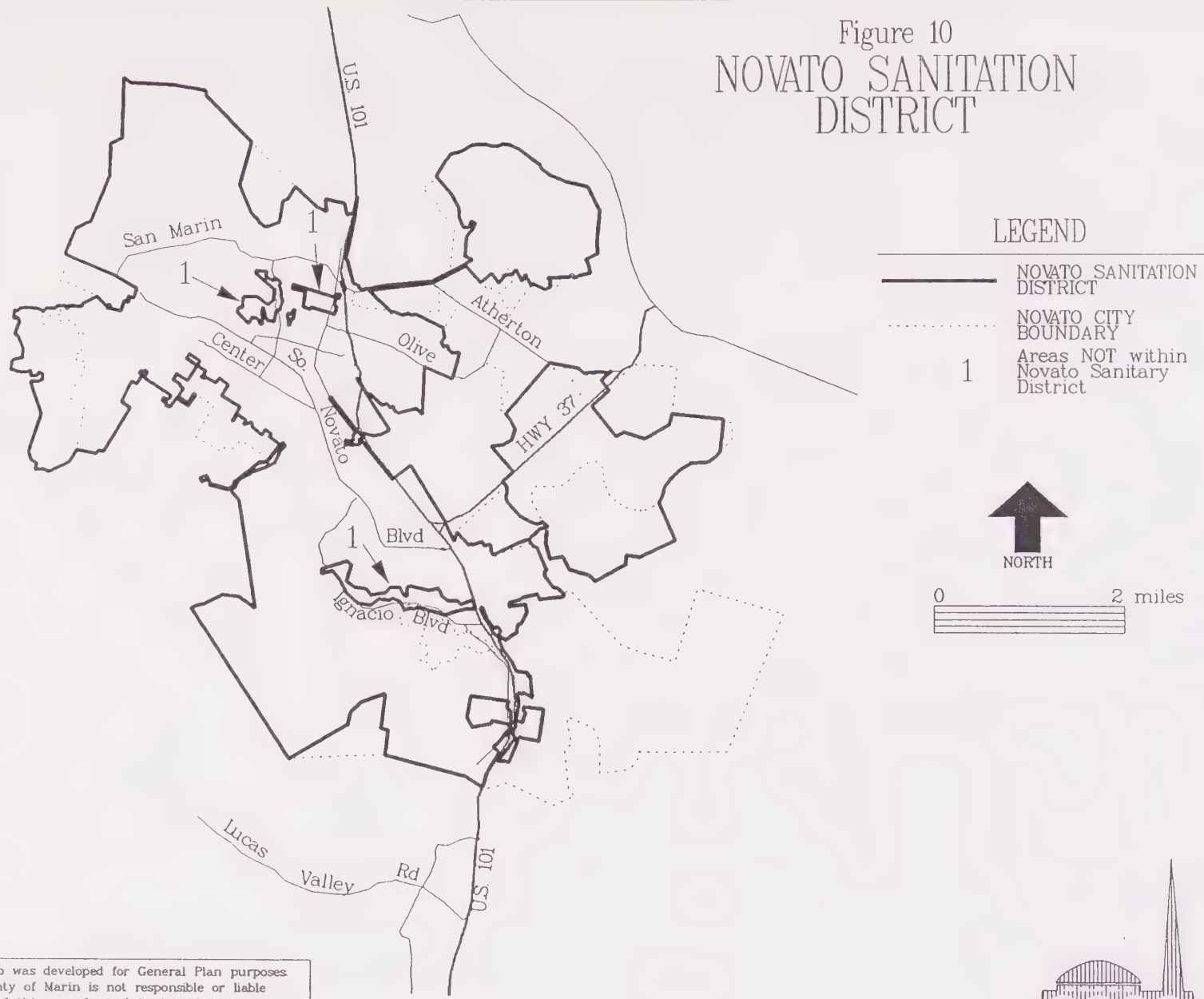
## L. BOLINAS COMMUNITY PUBLIC UTILITY DISTRICT (BCPUD)

The Bolinas Community Public Utility District (BCPUD) provides sewage collection, treatment, and plant and system maintenance, in addition to the water services described in the Water Services section of this report (see Figure 11).

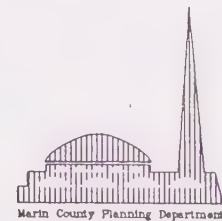
### 1. Existing Level of Service

The BCPUD sewage system serves 163 connections with a District population of approximately 480 people. Only one-third of the community is linked to the sewage system. The remaining units use septic systems. The District's collection system consists of a pump station, 2.1 miles of gravity collection mains, and force main which transported 30,000 gallons per day during the dry months in 1991.

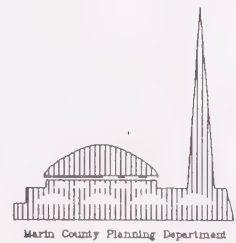
Figure 10  
NOVATO SANITATION  
DISTRICT



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# Figure 11 Bollnas Public Utilities District





The treatment plant, built in 1975, is designed to treat 65,000 gallons per day in the year 2000. The District uses the reclaimed water to irrigate 65 acres of land. There is no outfall of treated wastewater. The BCPUD has a treatment plant with a dry weather design capacity of .065 million gallons per day. In 1991, average dry weather flows were .03 million gallons per day, or 46% of plant capacity (see Table 5). The treatment plant and collection system are expected to reach capacity by the year 2000.

The District's collection system was completed/reconditioned in 1990.

One concern of the District has been pollution of groundwater caused by chloride migration (seawater) from the sewage treatment plant ponds. A study commissioned prior to the collection system upgrade showed that chloride was migrating toward wells used for drinking water. The study estimated that in 12 to 45 years, a chloride removal program would need to be implemented at the treatment plant. However the BCPUD thinks that the chloride migration problem has been mitigated by the system improvements.

Septic tanks in the District are periodically pumped and the effluent is hauled to the treatment plant. The pumped solids are disposed of in the settling ponds. The concentrated state of this septic tank effluent periodically puts the ponds at their organic limit to safely treat the District's present level of wastewater.

## 2. Future Service Capability

In June 1990, the BCPUD completed a collection system replacement project with the support of the Environmental Protection Agency and a California State Water Resources Control Board grant. This project reduced infiltration rates by approximately 75%.

Approximately 68 to 75 new dwelling units could be built in Bolinas under the 1985 Bolinas Community Plan. However, due to insufficient water capacity, a moratorium on the issuance of new water services has been in effect since 1971. The District is not convinced that the sewage treatment plant has adequate capacity for this additional development due to the present level of demand created by the summer tourist population and the ongoing septic tank hauling. Meeting these demands reduces the capacity available to serve present and future sewer service connections.

#### **M. DILLON BEACH**

Sewer service within the Oceana Marin Subdivision in the Dillon Beach Community is provided by the North Marin Water District. The gravity system flows to a lift station (located west of Oceana Drive) which has a pumping capacity of 100 gpm. Flows from the sewerage lift station are discharged into two 3-million gallon ponds located on the ridgetop each of the subdivision. Sewer service for the remainder of the community is provided by individual septic systems.

#### **N. TOMALES**

The town of Tomales opened a sewage collection and service system in 1977. The system is designed to handle waste from the existing residences and commercial establishments, the school facilities and approximately 50 new residential units. Any development beyond that would require the expansion of the treatment plant facilities.

#### **O. REMAINDER OF WEST MARIN**

The remainder of West Marin is on septic systems. Stinson Beach has an innovative septic system management program to ensure proper maintenance of septic systems.




### **VI. FIRE PROTECTION**

Fire protection is provided by 16 fire protection districts as well as the County Fire Department. The County provides fire protection to areas outside of District boundaries. Most of the fire protection districts have mutual aid agreements.

Fire district regulations are not uniformly applied to new development located in County unincorporated areas. Ministerial applications (e.g. building permits) are only required to meet the standards of the County Fire Code, which does not contain residential sprinkler requirements. However, in the case of discretionary permits (e.g. subdivisions, design review, etc.), County Planning staff reviews applications and may recommend that more restrictive Fire District regulations be required as conditions of permit approval. The County Fire Department estimates that approximately half of all development applications are discretionary in nature.

Figure 12  
Fire Protection Service  
Novato Planning Area

# LEGEND

-  Planning Area 1  
Novato
-  Novato Fire  
Protection District
-  Novato City Limits

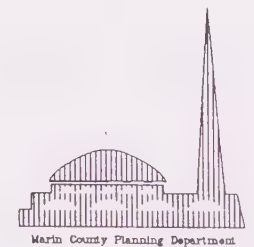


NORTH

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## A. NOVATO PLANNING AREA

### 1. Existing Level of Service

The Novato Fire Protection District (NFPD) provides fire protection service to the entire Novato planning area which includes all areas of the City of Novato as well as surrounding developed unincorporated areas (see Figure 12). The Department has four stations, 79 full-time firefighters, and approximately 20 volunteers. The staff includes 19 paramedics and all firefighters are trained as emergency medical technicians. Station #1 has nine firefighters on duty during each shift; Stations #2 and #3 have three per shift; and Station #4 has five per shift. The District owns six engines, a truck with an aerial platform, a water tender, three brush trucks, three ambulances, and a utility vehicle.

The District receives automatic aid from Marin County and San Rafael as well as mutual aid assistance from the State Department of Forestry and Petaluma. Approximately 70% of the District's funding comes from property taxes with the remainder from a special fire tax that expires in 1992, and a Federal government contract for service to Hamilton Air Force Base.

Some areas in the District are beyond a five-minute response time. To improve service to these areas, the District requires that all new development have a fuels management plan, and all commercial development over 2,500 square feet have automatic sprinkler systems. Approximately 1,500 homes within the District had automatic sprinklers in 1987.

### 2. Future Service Capability

The District adopted a five year master plan in 1987, projecting future staffing and equipment needs. The plan also calls for replacement of older fire fighting equipment. The master plan also includes the relocation of two stations to improve service to the northeastern portion of the District. Station #1 was relocated in 1988 and Station #2 will be relocated in 1990.

Development of the Hamilton Air Force Base, with a large concentration of housing, commercial and office/research uses, will necessitate the addition of new personnel and equipment.

## B. LAS GALLINAS VALLEY AND SAN RAFAEL BASIN PLANNING AREAS

### 1. Existing Level of Service

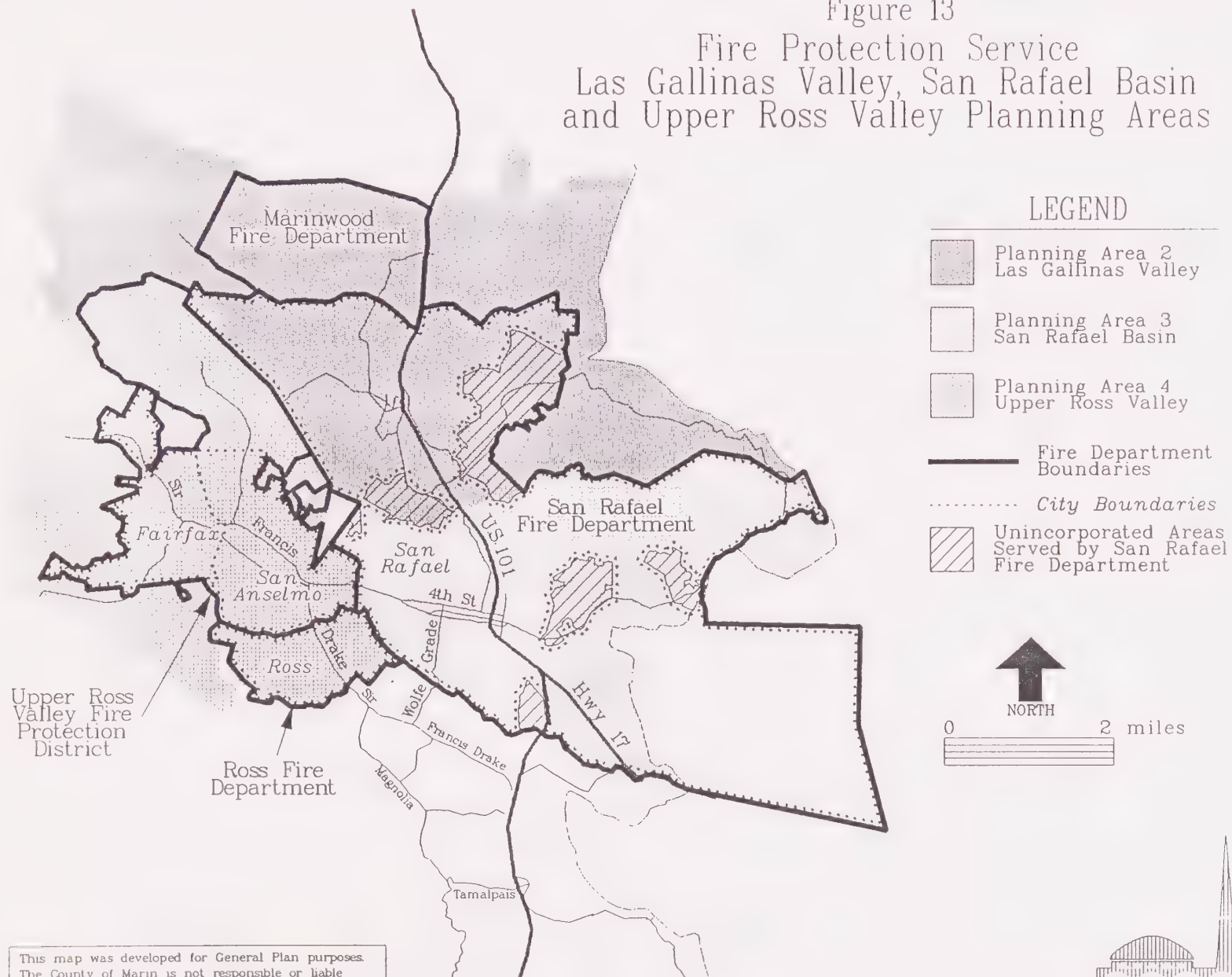
The San Rafael Fire Department (SRFD) protects the City of San Rafael while County Service Area 19 (CSA 19) protects Santa Venetia, Los Ranchitos, and unincorporated islands in the sphere of influence. The Marinwood Fire Department protects Lucas Valley. The planning areas are shown in Figure 13. The SRFD has seven stations at the following locations: County Civic Center, Northgate, Upper Terra Linda, Downtown, Montecito (near the Country Club), East San Rafael, and Peacock Gap (near Point San Pedro). Each station has one engine capable of pumping 1,500 gallons per minute. The Civic Center station houses a snorkel truck and there is a 100 foot aerial ladder housed at the Peacock Gap Station.

All stations have three firefighters on each shift, except for the downtown station which has four. The San Rafael fire suppression force totals 86 which includes 11 paramedics. Fire department staffing, including administrative staff totals 95. All fire suppression personnel are trained as emergency medical technicians. A dispatching system matches the San Rafael Fire Department's level of response to a fire by evaluating the structure's value, location, and internal protection systems. All the lands within San Rafael's sphere of influence, except portions of Lucas Valley, Marinwood, and St. Vincent's, are within a five-minute response time of one of the fire stations.

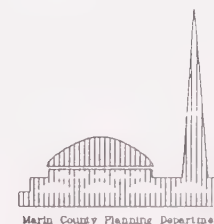
CSA 19 provides funding to the SRFD for fire protection services to nearly all unincorporated areas in San Rafael's sphere of influence, except Lucas Valley and Marinwood. These areas are protected by the Marinwood Fire Department, a part of the Marinwood Community Services District. Marinwood's Fire Department is under contract with the County to provide fire protection for CSA 13 which covers Lucas Valley. The Marinwood Fire Department has one station on Miller Creek Road that houses two 1,000 gallon per minute pumper engines and a 250-gallon per minute pumper engine. The Department also has a utility vehicle. Seven full-time firefighters staff the station in addition to the Chief, a fire cadet, and 25 volunteers. Seven firefighters are trained as emergency medical technicians. Two to four staff members are on duty at all times. Marinwood maintains an automatic aid agreement with San Rafael and Marin County.

The Lucas Valley Estates development at the western end of Lucas Valley has response times ranging from four to six minutes. Homes that are beyond the five-minute response time contain sprinklers. Otherwise, the San Rafael and Marinwood Fire Departments can reach all areas within their jurisdictions within the desired five-minute response time.

Figure 13  
Fire Protection Service  
Las Gallinas Valley, San Rafael Basin  
and Upper Ross Valley Planning Areas



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The San Rafael Fire Department and Marinwood Fire Department work closely together under a joint powers agreement. San Rafael does dispatching for Marinwood fire calls. The two agencies are functionally consolidated but still maintain separate administrations. San Rafael also provides paramedic services to CSAs 19 and 13.

## 2. Future Service Capability

The seven fire stations in San Rafael are strategically located to provide adequate fire response times to all areas within the San Rafael sphere of influence with a few exceptions. Station 3 on Joseph Court in Terra Linda may need to be relocated to Smith Ranch Road in order to serve development anticipated at the St. Vincent's/Silveira site. Also, San Rafael and Marinwood are negotiating over future service to the undeveloped property west of Highway 101 and north of Lucas Valley Road. The City of San Rafael requires that any commercial buildings constructed beyond the limits of a five-minute response time contain sprinklers. Although the Department has proposed a similar requirement for all future residential development, this has not been approved. It is possible that San Rafael would require future development at St. Vincent's to provide sprinklers if that is the most economical solution to adequate service provision.

The only expansion needed by the Department will be to increase administrative staff and to add a long range plan to possibly add a second paramedic unit. Approximately 63% to 67% of all fire department calls are medical in nature.

*Unincorporated areas.* The Marinwood Fire Department does not anticipate a need to increase staffing. However, future development which requires service from the Marinwood Fire Department will need to contribute in-lieu fees to fund capital improvements for the Department.

## C. UPPER ROSS VALLEY PLANNING AREA

### 1. Existing Level of Service

*Fairfax and San Anselmo.* In 1982, the Towns of Fairfax and San Anselmo and the Sleepy Hollow Fire Protection District entered into a joint powers agreement and created the Ross Valley Fire Department (RVFD). The RVFD serves the entire San Anselmo sphere of influence and the Town of Fairfax from three stations. The Fairfax station has two 1,250 gallon per minute pumpers, one of which is a reserve unit, and a squad car. Two firefighters work each shift.

The downtown station in San Anselmo is staffed with a maximum of four and a minimum of three firefighters per shift, and the Sleepy Hollow substation located on Butterfield Road is staffed with two firefighters per shift and has one 1,250 gallon per minute pumper. The RVFD staff totals 26 firefighters.

The three stations respond to all reported fires in the service area. The average response time is 3.25 minutes from the receipt of a call to the arrival of the first unit. Approximately 16% of the department's jurisdiction is beyond a five-minute response time with a maximum of 9.5 minutes to remote areas. The extended response time is a function of distance as well as steep, winding, narrow roadways.

The Department is integrated into the Marin County Fire Rescue Mutual Aid Plan and has automatic aid agreements with the County, Ross, and San Rafael. The Ross Valley Paramedic Authority provides advanced life support services to the Department.

The RVFD's three member agencies contribute proportional shares of the Department's budget. The breakdown of contributions in 1987 was: San Anselmo - 46.6%; Fairfax - 30.4%, and Sleepy Hollow - 23%. In 1985, the RVFD attempted to consolidate with the Town of Ross Fire Department, however, the Ross Town Council rejected the offer. At some future date this consolidation may be sought again.

*Town of Ross.* The Ross Fire Department is a part of the Ross Public Safety Department which provides both police and fire protection to the Town. The Fire Department has one fire station with two pumper engines and a squad truck, staffed by three paid firefighters and eight volunteers. Every location in Ross is within a three to five-minute response time. A Marin County Paramedic Team ambulance is available to Ross. Automatic aid is available from the Ross Valley Fire District for certain streets and structures.

The Town of Ross has no plans for expansion of its staff or equipment since Ross is very nearly built out. No residential sprinkler ordinance is proposed for new development because response times to all areas of Ross are adequate.

## 2. Future Service Capability

The Ross Valley Fire Department is capable of serving all areas within the sphere of influence as long as detection and/or extinguishing systems are required in all residential and non-residential structures which are either located beyond a five-minute response time or exceed the service capabilities of the Department. No additional staff, equipment or stations will be required to maintain this level of service.

All new structures are required to provide adequate water supply for fire protection. Although the Department has no plans to require fire sprinklers in new residential structures, it often recommends that sprinklers be included in the project design. The Department has an ordinance requiring fire retardant for wood shake roofs, and requires that roadway designs provide adequate turning radii and turnarounds for emergency vehicles, as well as the integrity to withstand the weight of fire vehicles. These requirements can be enforced in County unincorporated areas only when the agency reviewing development permit applications incorporates these requirements as conditions of project approval.

*Unincorporated Areas.* The County Fire Department is responsible for fire protection services in the unincorporated areas outside the jurisdiction of the Ross Valley Fire Department's jurisdiction. The Woodacre station located in the San Geronimo Valley is the nearest station. The station is staffed with four to six firefighters per shift and is equipped with four 1,000-gallons per minute pumpers plus specialized equipment. The Department requires roughly six minutes to reach Oak Manor and eleven minutes to reach the Monte Cristo tract. To ensure adequate protection, the County Fire Department maintains an automatic aid agreement with the Ross Valley Fire Department. Under the provisions of the agreement, RVFD will automatically send one engine to any emergency call. With this assistance, an engine can be on the scene in outlying areas within three to seven minutes.

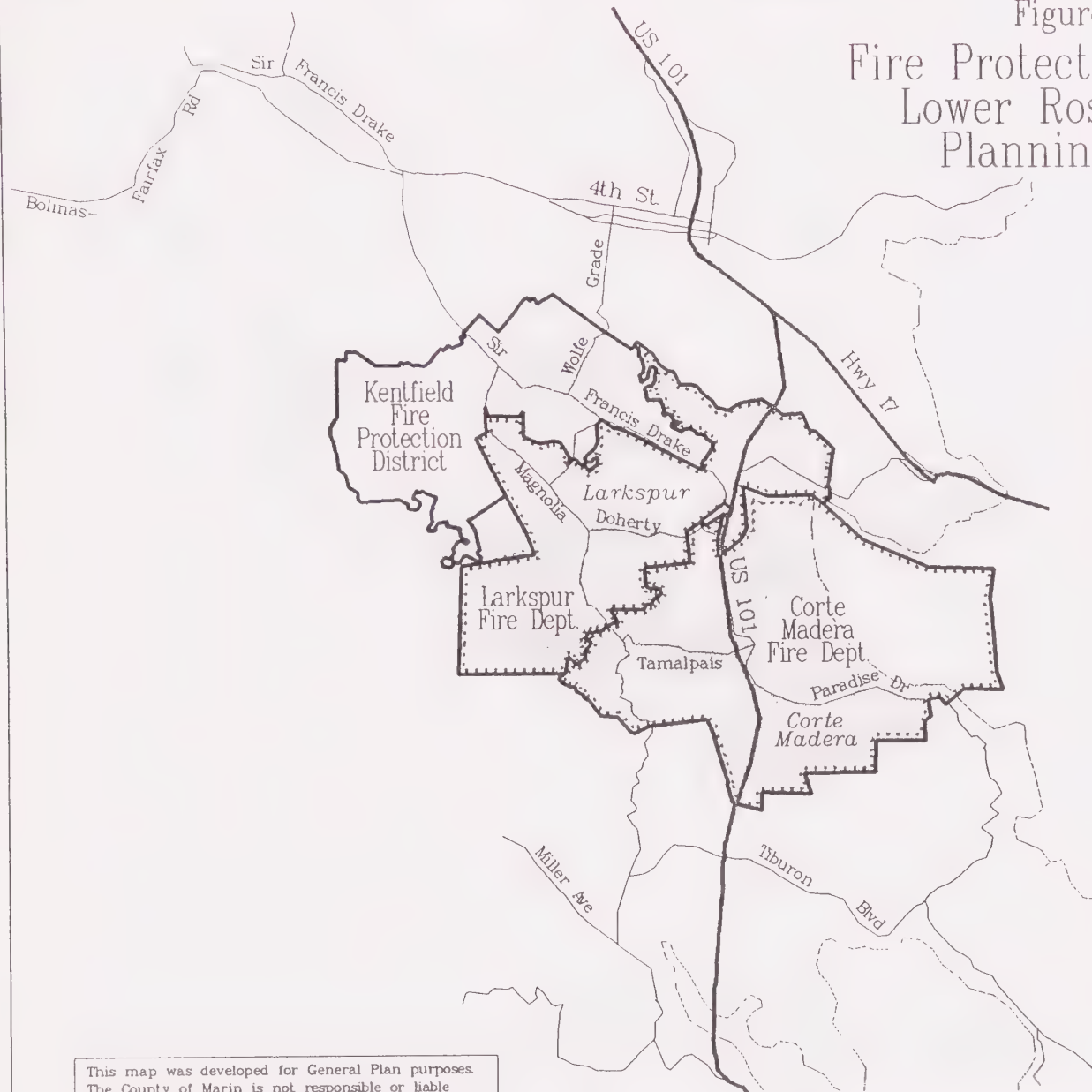
#### D. LOWER ROSS VALLEY PLANNING AREA

##### 1. Existing Level of Service




*Corte Madera.* In Corte Madera, fire protection is provided by the Corte Madera Fire Department (CMFD) which has 17 paid staff members and ten volunteers. All CMFD firefighters are trained emergency medical technicians. The main station, adjacent to Town Hall, is staffed at all times with four firefighters. The satellite station on Paradise Drive, which is leased to Marin Ambulance, can be used during major emergencies such as floods or summer fires. The CMFD's firefighting equipment includes three engines, a command vehicle, and two utility vehicles. Corte Madera's small geographic area and specialized equipment enable the fire department to provide adequate fire protection to the entire town. Only the top of Christmas Tree Hill and the top of Meadowsweet Drive are beyond the fire department's desired maximum five-minute response time. However, during peak traffic periods, response times to The Village shopping center and east Corte Madera can exceed five minutes.



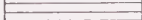
Figure 14  
Fire Protection Service  
Lower Ross Valley  
Planning Area



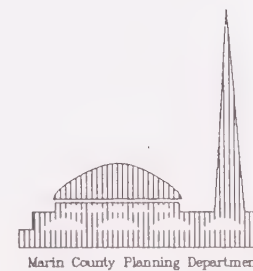
LEGEND

-  Planning Area 5  
Lower Ross Valley
-  Fire District  
Boundaries
-  City Boundaries



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for use of this map beyond its intended purpose.



Corte Madera maintains an automatic aid agreement with Larkspur. In addition, CMFD responds automatically to freeway accidents along portions of Highway 101 in Tiburon, Mill Valley, and Alto. Paramedic service in the Ross Valley is provided through a joint powers agreement between the affected jurisdictions. The Ross Valley agencies contract with the County (CSA #27) for paramedics.

*Larkspur.* Fire protection is provided by Larkspur's Fire Department which maintains its main station downtown on Magnolia Avenue and a satellite station just off Sir Francis Drake Boulevard in the incorporated portion of Greenbrae. The main station is staffed with two persons per shift, and the satellite station has three persons per shift. The total staff includes 16 paid personnel and 25 volunteers. The fire department has three 1,250 per minute pumper engines, one squad truck, one rescue air unit, and three accessory vehicles. Ross Valley Paramedic Authority serves Larkspur and most of Larkspur's firefighters have emergency medical technician status. Larkspur's Fire Department has an automatic aid agreement with the Corte Madera Fire Department and Kentfield Fire Protection District for structural fires, and mutual aid agreements with the San Rafael Fire Department. The Larkspur Fire Department is operating at maximum capacity.

Response times are generally adequate, although some hillside neighborhoods are beyond the fire department's desired maximum six-minute response range. These areas include Madrone Woodlands which is seven minutes away and the highest part of Sunrise Lane, past Marina Vista, which is eight minutes away.

Developers proposing to construct outside the desired response time may have to provide onsite protection measures, such as sprinkler systems based on the case-by-case recommendation of the fire department. The fire department does not intend to adopt a residential fire sprinkler ordinance.

*Unincorporated Areas.* Developed unincorporated areas along Lucky Drive receive medical aid from the County Fire Department out of the Marin City station and structural fire protection from Marin City and Woodacre. Marin City is staffed with two persons per shift and equipped with two engines. Woodacre has four to six persons per shift and four engines. Response times to this area are unsatisfactory so the County relies on mutual aid from local jurisdictions to compensate for the difficulty of providing adequate service to this and other unincorporated "islands."

The Kentfield Fire Protection District (KFPD) covers the unincorporated communities of Kentfield, Kent Woodlands, Murray Park, and Greenbrae. Its one station at College and Sir Francis Drake Boulevard houses four engines plus two trucks and a utility vehicle. Total staff includes 13 paid firefighters and 20 volunteers. Four firefighters

staff each shift. All firefighters are trained emergency medical technicians. Paramedic service is provided by Ross Valley Paramedic Authority.

The KFPD covers a wide variety of structures and topography from the fairly dense mixed use development along Sir Francis Drake Boulevard to the steep low-density residential hillside areas of Kent Woodlands. The Kentfield Community Plan identifies difficulties in responding to fires in the upper Kent Woodlands area. In particular, those streets outside the Kentfield Fire Protection District's desired five-minute response time are Crown Road, Goodhill Road, and Evergreen Drive. The Fire Protection District has an automatic aid agreement with Larkspur's Fire Department and is part of the countywide mutual aid plan.

## 2. Future Service Capability

*Corte Madera.* Corte Madera has a requirement that all structures built beyond the five-minute response time install fire sprinklers and the Town is considering adoption of an ordinance requiring fire sprinklers in all new residential construction.

*Larkspur.* The fire station in Larkspur does not meet State structural safety standards and is located in a flood-prone area. The Larkspur Fire Department is planning to build a new, larger facility located outside of the flood zone.

*Unincorporated Areas.* The County provides fire protection to the Greenbrae Boardwalk, with Larkspur providing service under a mutual aid agreement. If Larkspur were to assume responsibility for this area and other areas to the north and east, additional staffing, equipment, and possibly stations would be required. Larkspur has suspended its practice of providing fire protection to San Quentin prison. At this time, the County is responsible for the prison's fire protection. However, Larkspur is available through its mutual aid agreement.

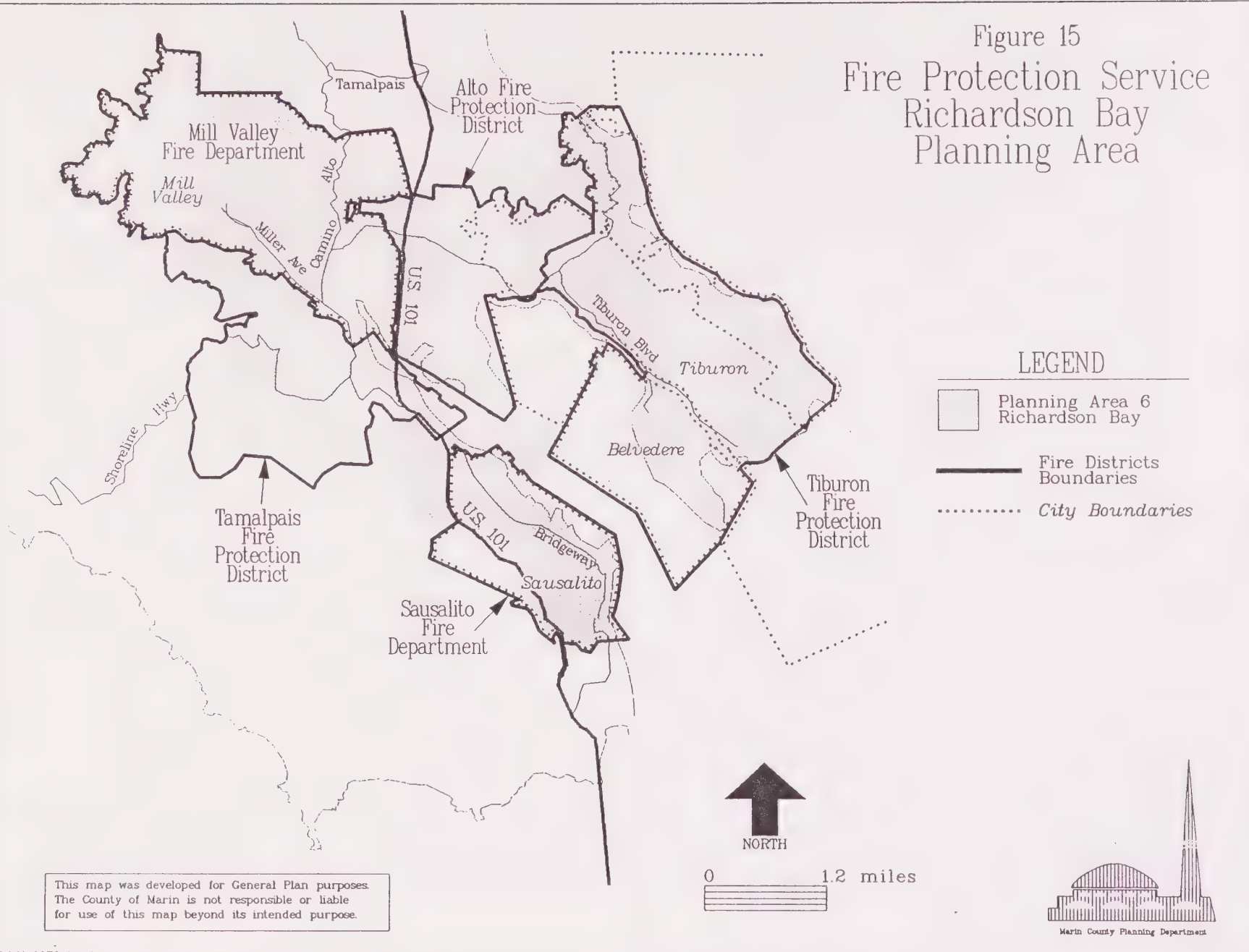
## E. RICHARDSON BAY PLANNING AREA

### 1. Existing Level of Service

*Mill Valley.* The Mill Valley Fire Department (MVFD) is functionally consolidated with the Tamalpais Fire Protection District (TFPD) and is managed through a Joint Powers Agreement. The consolidation added one fire station (Tamalpais Station #5) and three engines, an ambulance, and other squad vehicles to the MVFD's inventory. There are three fire stations staffed with 37 firefighters and seven volunteers.



Figure 15  
Fire Protection Service  
Richardson Bay  
Planning Area



Certain parts of Mill Valley are outside the MVFD's desired five-minute response time. Neighborhoods at the City's northwestern end, such as the upper section of Summit Avenue, Fern Canyon Road, and Rose Avenue, are reached only after an arduous climb which slows down pumper engines. The MVFD has adopted an ordinance to require fire sprinklers in all new residential construction and large-scale remodel projects.

Mill Valley has one of southern Marin's oldest water systems. Mains dating back to the turn of the century are common in the upper hill areas. Developers are required to increase the capacity of these mains and extend them if hydrants are farther than 300 feet from a residence.

Water flow is similarly inadequate in many places in the Tamalpais service area. Some of the water mains, installed as long ago as 1909, can carry only 500 gallons per minute rather than the 1,500 gallons per minute standard often used for insurance purposes. Developers are required either to install sprinklers or to enlarge the capacity of the mains to 1,000 gallons per minute.

The Marin Municipal Water District has historically provided for rehabilitation of lines to fire flow standards through a "Fire Flow" charge on water bills. In 1985, MMWD approved Mill Valley's proposal to upgrade lines to fire flow standards in the Edgewood and Cascade areas. In 1987, the MVFD requested additional water flow improvements. The MMWD terminated the Fire Flow charge program and requested that local jurisdictions set up independent methods to fund these improvements. As of December 1988, Mill Valley, along with other Marin cities and Fire Districts, was requesting that MMWD reinstate the Fire Flow charge program.

Mill Valley receives paramedic service from the Southern Marin Emergency Medical-Paramedic System, which operates out of Mill Valley's Public Safety Building (located in the City's southeastern corner). The MVFD contributes four paramedics to the System. All of the MVFD's firefighters are trained emergency medical technicians. These firefighters are trained to diagnose a patient's vital signs, providing a level of service above that of Advanced First Aid.

MVFD's revenues come out of the City's property and business tax revenues. Because the latter is a relatively large share of total receipts, the MVFD's funding has remained healthy in the post-Proposition 13 era.

*Sausalito.* The Sausalito Fire Department provides fire protection services within the city limits. The Department has 18 persons on staff, as well as the Fire Chief and one volunteer. Recruitment efforts are underway to find additional volunteers. The main

station at Johnson and Caledonia Streets is staffed with three firefighters at all times and houses two engines, a truck and pumper, an ambulance, one utility vehicle, a 24 foot boat with pump, an inflatable boat, equipment for a six-man dive team, and other specialized equipment to assist in mountain or water rescue. This station primarily serves the commercial and industrial areas along the waterfront, as well as all residential areas.

Station #2, located near Highway 101, is staffed with two firefighters during evenings and weekends. Its equipment includes one engine. When Station #2 is not staffed during the weekdays, the entire city must be protected from the main station. Generally, over 90% of the structures are within the desired five-minute response time, although Wolfback Ridge is about a ten minute distance from the downtown station. The city maintains automatic aid agreements with all southern Marin fire agencies and the County Fire Department.

A major concern expressed by the Fire Department is the inadequate capacity in the water lines in certain areas of the city. Even with its mutual aid agreements, the city cannot adequately protect Wolfback Ridge, because water supply is insufficient to suppress fires. Similar constraints exist on future commercial and industrial development along the waterfront. All new development in these areas will be required to contribute to upgrading or replacing existing water mains.

Paramedic service is provided through the Southern Marin Emergency Protection Service, a joint powers agency formed by Sausalito, Tiburon, Mill Valley, and the County. The general service area includes all areas south of Alto Hill and Strawberry.

*Unincorporated Areas in Sausalito SOI.* The unincorporated areas in the Sausalito sphere of influence are the responsibility of the County's Fire Department. A station, equipped with a 1,000 gallon per minute pumper, is conveniently located in Marin City and can easily reach all structures in Marin City within five minutes. The station is staffed full time, with two firefighters on each of the three shifts. While this station can adequately handle brush fires and minor house fires, it relies upon assistance from Sausalito to suppress major fires.

The use of the current Sausalito Fire Boat is limited due to the tidal conditions, shallowness, and debris on the bottom of the Bay. Additional fire protection is necessary for the 400 or so floating homes, where conditions exist for potential conflagrations, with possible loss of life. An air-driven rescue craft, with an especially protected bottom and pump, is being considered. This craft would be capable of reaching all areas, regardless of water depth, or lack thereof.



*Tiburon & Belvedere.* Roughly three-quarters of the Town of Tiburon and the eastern side of the Tiburon Peninsula are within the jurisdiction of the Tiburon Fire Protection District (TFPD). The TFPD also provides fire protection for the City of Belvedere. The District maintains two stations and employs a total of 20 firefighters and 23 volunteers. Two engines are housed at the main station on Tiburon Boulevard along with a squad truck and utility vehicles. A third engine and an ambulance operate out of the substation (Station #10) at Trestle Glen and Paradise Drives. The District's operations are financed by property taxes, State augmentation funds, special fire tax money, and a service contract with Belvedere.

Most development in the District is well within the desired five-minute response time, except for hillside areas where street configurations make access difficult. Response times to Belvedere are adequate. The hilltop neighborhoods around Mount Tiburon Road and Sugarloaf Drive are slightly outside the five-minute range. While the substation is well situated to serve the western portion of the peninsula, response time to Teaberry Lane on the east side of the peninsula is nearly six and a half minutes. Improved access could allow a more prompt response.

The TFPD is a member of the Southern Marin Paramedic System and contributes one paramedic and an ambulance. It has automatic aid agreements with Alto Richardson Bay Fire Protection District and Corte Madera Fire Department for both structural and brush fires. The District is adequately staffed to meet future development, provided that new development is accessible. The District has adopted an ordinance requiring installation of sprinklers in all new residential development, and in existing homes when more than 50% of the structure is reconstructed.

Reed Boulevard and the western portion of the Bel-Aire neighborhood are served by the Alto-Richardson Bay Fire Protection District. This District is also responsible for the unincorporated areas in the Tiburon sphere of influence as described further below.

*Unincorporated Areas of the Tiburon SOI.* Strawberry, a majority of the unincorporated area on the western end of the Tiburon Peninsula, and a quarter of the Town of Tiburon receive fire protection services from the Alto Richardson Bay Fire Protection District (ARBFPD). The ARBFPD maintains one station in Strawberry at Richardson Drive and Reed Boulevard having closed a second station located in Mill Valley. A total of 18 paid firefighters including a Fire Chief and ten volunteers offer fire protection and emergency first aid services. The District is a member of the Southern Marin Paramedic System and contributes two paramedics. Five persons per shift staff the Strawberry station.

Response times are within five minutes to 90% of existing structures within the ARBFPD's service area. Areas beyond the five-minute response time are covered by

the District's automatic aid agreement with the TFPD. The District has adopted an ordinance requiring installation of sprinklers in all new residences, similar to the TFPD ordinance, which reduces concern about the likelihood of response times slightly greater than five minutes to future development.

*Unincorporated Areas in the Mill Valley SOI.* The MVFD provides fire protection and medical services to all of the unincorporated areas within the Mill Valley sphere of influence. The MVFD receives Federal funding for its support in providing fire protection to the Golden Gate National Recreation Area.

## 2. Future Service Capability

*Mill Valley.* Since the MVFD presently provides adequate fire protection and emergency medical services to nearly all of the Mill Valley sphere of influence and no expansion to staffing or equipment levels are planned. The MVFD does intend to expand its community educational services and outreach programs.

*Sausalito.* With 19 paid personnel plus volunteers and four conventional engines, the Sausalito Fire Department is adequately staffed and equipped to serve the projected development within the existing City limits. The Department has implemented an ordinance requiring the placement of sprinklers in all new residential development and existing homes when more than 50% of the structure is being renovated. This requirement ensures that the Fire Department will be able to maintain its current level of service even as the City grows. The Department plans to acquire a new fifth engine to better serve residential areas.

If Marin City were annexed to Sausalito, the response time to the bowl area would be five to six minutes and an additional one to two minutes to get to the top of the ridgeland area from the present facilities, assuming that Sausalito did not take over the existing County station. Additional staff would need to be hired by the City to serve this area.

*Tiburon.* The TFPD will probably not increase its staff, given the service area's present needs and projected growth. However, improvements to the water supply lines are needed. Development in many hillside areas is limited by water pressure too weak for fighting fires. The peninsula's east side, in particular, does not have adequate water supplies or pressure from its water lines. In 1987, the Fire Protection District began updating its water system. A five-year improvement plan was submitted to the Marin Municipal Water District, which will establish priorities for water distribution system improvement needs in this jurisdiction and all other jurisdictions in the County. In addition, the District is increasing hydrant capacities and changing to a larger diameter fire hose to increase flows at the site of fires.

The TFPD is currently studying a proposal to consolidate fire protection services with the ARBFPD. If a consolidation should occur, no additional staffing or equipment would be needed.

F. WEST MARIN

1. Existing Level of Service

Fire protection in West Marin is provided by three fire protection districts and the County Fire Department. The fire stations are located in Point Reyes Station, Inverness, Marshall, Tomales, Bolinas, Stinson Beach, and Muir Beach.

Paramedic service in West Marin is provided by County Service Area #28. This agency has two units. One provides service from Point Reyes north almost to the County border and south to Stinson Beach and the second unit provides service eastward to San Geronimo. The City of Petaluma provides paramedic service to the northwestern corner of Marin County. Funding for this paramedic service comes from property taxes.

*Bolinas.* The Bolinas Fire Protection District staff consists of a Chief, a part-time professional firefighter, a part-time volunteer secretary, and approximately 26 volunteer firefighters. Thirteen of the firefighters are trained as Emergency Medical Technicians. The District has no paramedics on staff. There is one station and the District equipment consists of four engines (three for structural fires and one for wildland fires) and one command/rescue vehicle. The District maintains mutual aid agreements with the Stinson Beach Fire Protection District, the Golden Gate National Recreation Area Headquarters in Point Reyes, and Marin County. Revenues for District services come from three sources: property tax, State Augmentation Funds, and Federal National Seashore funds.

*Inverness.* The Inverness Public Utilities District (IPUD) provides fire protection and water collection, treatment, plant, and system maintenance. Fire protection services will be discussed below. A discussion of the IPUD's water services is found in the "IV. E. Water Services" section of this report. The IPUD's fire fighting staff includes a half-time paid Chief and approximately 20 volunteers. Some of the volunteers are trained as emergency medical technicians. The IPUD has one station located on Inverness Way, which houses two new pumper engines, two new squad cars, and one utility vehicle.



Volunteer firefighters are dispatched through the County Fire Station at Woodacre. All volunteers carry paging devices and have short-wave radios to maintain communication. The IPUD maintains mutual aid agreements with the County and the National Seashore headquarters at Point Reyes. Emergency First Aid is provided within the District by the IPUD volunteers, and augmented by paramedic service from the County. District revenues come from property taxes and special District augmentation funds.

*Stinson Beach.* The Stinson Beach Fire Protection District staff consists of a Chief, an Ambulance Corps Director, and an Office Manager. The District has approximately 30 volunteers. Thirteen of these firefighters are trained as Emergency Medical Technicians, providing basic emergency first aid only. Paramedic service is provided by the County. The District has two stations located along Highway 1 and at Calle Del Arroyo. The District's equipment consists of three engines, a water tender, a squad car, and an ambulance. Because of the largely volunteer staff, a fire siren and an electronic paging system are used to call volunteers to emergencies.

## 2. Future Service Capability

*Bolinas.* At present, the District believes that its level of service is exceptional. However, future growth in Bolinas will increase demands for fire protection service. The District is considering adopting a residential sprinkler ordinance, increasing water supplies in rural areas beyond its fire hydrant service area, and adopting a uniform fire code. The County Fire Department believes that adoption of a uniform fire code is extremely important because the County's Uniform Fire Code does not apply within the District, and the District lacks written fire safety standards. The County Fire Department notes that some homes within the District have been constructed with inadequate hydrant or water tank supplies. With its limited staff, the District would have difficulty in enforcing the entire Uniform Fire Code, so the District is considering adopting appropriate portions of the Code. In addition, there will be a need to expand the fire station and replace two of its older engines.

*Inverness.* Service within the District is excellent at present because the equipment is in good shape and volunteers are always available. There are a few service locations beyond the reach of the IPUD's fire hydrant system. When fires occur in these locations, firefighters ferry water to them, taking advantage of District water storage tanks.

The IPUD has no plans to expand its personnel or equipment. In 1988/89, the fire station will be rebuilt and expanded.

*Stinson Beach.* The District serves the community of Stinson Beach and can reach all residents within five minutes. The District maintains mutual aid agreements with Marin County and the Bolinas Fire Protection District. Revenues are derived from property taxes. The District has no plans to augment its staff or equipment.

## **VII. POLICE PROTECTION SERVICES**

### **A. NOVATO PLANNING AREA**

#### **1. Existing Level of Service**

The Novato Police Department has 52 full-time sworn officers including the Chief of Police. Twenty-six officers, six sergeants and nine reserves are assigned to perform patrol duties. Four traffic officers perform traffic related enforcement and investigation duties. Six officers and one sergeant are assigned to the investigations bureau. In the patrol responsibilities, approximately anywhere from seven to ten officers are assigned on any given night with a minimum of one to two supervisors on duty during the evening hours. The city is broken into four geographical areas with an additional two to four units serving as directed patrol units when needed.

#### **2. Future Service Capability**

*Novato.* The Department expects to expand its ranks as the need is demonstrated by new growth or changes in service demand. Several unincorporated areas exist within the Novato planning area. If these were annexed to the City, the Police Department would need to realign its beats to accommodate these areas and possibly add additional staff.

Ongoing infill development in Novato is increasing the demand for police protection. The Department's Chief plans to request three additional sworn officers and one sergeant during the 1989/90 budget cycle to respond to incorporated City growth. Over the next five years, the Department anticipates the need to increase its motorcycle traffic patrol capability, and to add a canine unit and one investigator.

Future redevelopment at the Hamilton Air Force Base will require additional staff members. This additional staffing can be accommodated at the Department's headquarters.

*Unincorporated Areas.* When the Sheriff's Department is fully staffed, three to four patrol deputies will be assigned to the Northern County area on all three shifts.

## B. LAS GALLINAS AND SAN RAFAEL BASIN PLANNING AREAS

### 1. Existing Level of Service

*San Rafael.* The San Rafael Police Department has one station and 73 sworn officers including the Chief of Police. Forty-three officers perform patrol duties and seven are assigned to traffic duty. The Department operates seven beats with one officer per beat on each of the three shifts. It has 14 patrol cars, ten investigator's vehicles, five motorcycles, two 4-wheel drive vehicles, two prisoner transport vehicles, one search/rescue patrol boat, one canine unit, and 12 other miscellaneous vehicles.

The San Rafael Police Department lost funding for three officers in fiscal year 1988/89, due to budgetary constraints. In 1988 the Department served a population of 45,885 (State Department of Finance estimate). The day-time population of San Rafael may swell to over 70,000. Due to staff reductions and increasing demands for police services, response times are prioritized depending on the nature of the call. Responses to life-threatening calls average three to five minutes, while other service calls are handled within hours, the same day, or by alternative methodologies.

*Unincorporated Areas.* The County Sheriff is responsible for law enforcement in these areas except for traffic enforcement, traffic complaints, vehicular accidents or auto theft investigations which are all handled by the California Highway Patrol. County Sheriff's Station #3, located at the Civic Center, has 16 sworn officers with three officers per shift. Service in the unincorporated areas of San Rafael appears to be adequate.

### 2. Future Service Capability

The San Rafael Police Department is presently operating below adequate staffing levels. The Department is constantly evaluating its service delivery capabilities and devising alternative delivery systems, reducing levels of response and in some cases deleting functions. The City Manager is exploring tax increase options with the City Council as a means to generate additional funds for city services. If the St. Vincent's property develops at an urban level, it should be annexed to the City and receive police protection from the San Rafael Police Department. This would require the establishment of additional beats and the addition of supervisors which would necessitate the hiring of additional staff.



## C. UPPER ROSS VALLEY PLANNING AREA

### 1. Existing Level of Service

*Fairfax.* Law enforcement activities are performed by the Fairfax Police Department. The department has sixteen sworn officers and two reserves with three police officers on duty each shift. Officers can respond to all areas within five minutes.

*Ross.* The Town of Ross Public Safety Department employs six police officers. The officers provide patrol, traffic enforcement, and crime prevention services.

*San Anselmo.* The Town of San Anselmo receives police protection from the San Anselmo Police Department. The Department has a staff of 17 sworn officers, five dispatchers and one Parking Enforcement Officer. The Department is augmented by three Reserve Police Officers and three Reserve Dispatchers. In addition to auto, motorcycle and foot patrols, the Department has an Investigation Unit consisting of one sergeant and one juvenile officer. There are active programs aimed at burglary and drug abuse prevention. The average response time to an emergency is under three minutes.

*Unincorporated Areas.* From the Kentfield substation, the County Sheriff's Department is responsible for serving the unincorporated areas such as Oak Manor, White's Hill, and Sleepy Hollow. Nine full-time deputies serve an area between San Quentin Prison and Lagunitas with two deputies on each shift. A third deputy at this substation is on contract to the community of Kent Woodlands. According to the Sheriff's Department, this is one of the quietest subregions in the County. However, the area encompassed is large and maximum response times average two to ten minutes, depending upon the location of the two deputies on patrol at the time of a call. The Department feels that the present staffing level is adequate and has no plans for expansion. Traffic enforcement in unincorporated areas is the California Highway Patrol's (CHP) responsibility. However, the Sheriff's Department will respond to and handle traffic enforcement when requested.

### 2. Future Service Capability

The Fairfax, San Anselmo, and Ross Police Departments do not anticipate the need for future staff increases.

*Unincorporated Areas.* If Sleepy Hollow were to become the responsibility of the San Anselmo Police Department, the department would need to acquire a new vehicle and hire up to five additional officers. A substation would not be necessary because response times from San Anselmo to Sleepy Hollow are within five minutes.

## D. LOWER ROSS VALLEY PLANNING AREA

### 1. Existing Level of Service

*Twin Cities (Corte Madera and Larkspur).* Corte Madera and Larkspur receive police protection from the Twin Cities Police Department (TCPD). The Department was formed under a Joint Powers Agreement that combined the police forces of the two jurisdictions. The TCPD currently has 32 sworn officers and three reserves. Four officers are on duty at all times. There is a station in Corte Madera and one in Larkspur.

The consolidation has brought about greater efficiency in record-keeping, purchasing equipment, scheduling, communications, and investigations. Consolidation has also allowed a decreased supervisor/patrol officer ratio and a decreased mechanics/maintenance staff ratio. From a resource standpoint, the ability to deploy patrol officers on a more flexible basis into areas of concern has resulted in improvements in response time and greater visibility of patrol officers. Eventually, there will be a need for expansion of these facilities or construction of a new central facility. Corte Madera and Larkspur split their costs for administration and communication evenly, but other costs are apportioned according to the share of patrol each city receives. In 1987, Larkspur paid 55% and Corte Madera 45% of patrol costs.

*Unincorporated Areas.* Lucky Drive and the Greenbrae Boardwalk receive law enforcement services from the Sheriff's Department and traffic control from the State Highway Patrol. Because there are relatively few dwelling units in these areas, the Sheriff's deputies are unlikely to patrol the area, but will respond when needed.

### 2. Future Service Capability

Extension of the Twin Cities Police Department service area to include the Greenbrae Boardwalk and Lucky Drive would not require the addition of police officers or equipment. However, in the growing commercial and residential areas of both cities, another beat may need to be created. This would require hiring four officers and purchasing an eleventh car.

*Unincorporated Areas.* Sheriff's deputies patrol Kentfield, Kent Woodlands and Greenbrae from a substation in Kentfield with supervision provided by the Sheriff's station at the County Civic Center. Two to three deputies are on duty at each shift. There are no areas in the sphere of influence outside the three to five minute desired response time. If additional help is needed, the Sheriff can call upon other units in the area or upon the Twin Cities Police Department under a mutual aid agreement.

## E. RICHARDSON BAY PLANNING AREA

### 1. Existing Level of Service

*Belvedere.* Law enforcement services in Belvedere are provided by the City Police Department and staffed with five patrol officers, one sergeant, and a Chief. At least one officer is on duty per shift. The City's four patrol cars are dispatched through the Tiburon Police Department. Because Belvedere is only one square mile in area, officers have little difficulty responding to calls within two to three minutes.

Belvedere has the lowest number of reported crimes in the Bay Area. Because of Belvedere's small community scale, its police officers perform many services beyond basic law enforcement (such as house checks when residents are absent) and respond to emergency and first aid calls. The City Police Department maintains a close mutual aid relationship with the Tiburon Police Department and the communities frequently assist each other. Although Belvedere has considered consolidation with Tiburon's Police Department, a survey of its residents indicated a strong preference for maintaining a City Police Department regardless of the added cost for doing so. The biggest problem facing the community is residential burglaries. To meet this problem, the City increased its staffing and implemented an aggressive neighborhood alert program.

*Mill Valley.* Mill Valley receives police protection from the Mill Valley Police Department (MVPD). The MVPD has one central station (located at the Public Safety Building on Hamilton Way), six marked cars, and 22 sworn officers. While the primary service area is the City, the MVPD is capable of serving areas beyond the city limits.

*Sausalito.* Law enforcement services for Sausalito are provided by the Sausalito Police Department. The staff of 26 sworn officers operates out of the station, adjacent to Fire Station #1 on Johnson Street. The patrol officers are assigned to three shifts. Typically, four to five officers make up each shift. In addition, two traffic officers are on duty during the day.

In recent years, commercial and industrial development in Sausalito's Marinship and Central Waterfront areas have added increased demand for police protection. The Department has responded by expanding its ranks and now has sufficient staff. The Sausalito Police Department has entered into a contract with the Richardson Bay Regional Bay Agency, a joint powers agency formed in 1987 by Sausalito, Mill Valley, Tiburon, Belvedere, and the County, to serve the water area of Richardson Bay. The Department will patrol the area and enforce anchoring and mooring regulations in the Bay.



*Tiburon.* The Tiburon Police Department currently patrols the town with 15 sworn officers, including a Chief and three Sergeants, assigned to two beats. The two existing beats exclude Tiburon's thinly populated pockets on the peninsula's eastern shore (and response to these areas occurs only when requested). The Tiburon Police Department also responds to surrounding unincorporated areas when requested by the County Sheriff.

*Unincorporated Areas.* The County Sheriff's substation #1 is located in Marin City. Deputies from this facility serve the unincorporated communities of southern Marin, from the Golden Gate Bridge to Corte Madera and from the Tiburon Peninsula to Muir Beach. Current staffing at the Marin City substation includes 16 officers with three on duty at all times, four sergeants, one lieutenant, and three complaint takers. This is the busiest station among the four operated by the County Sheriff 's Department. An additional one or two officers could be added to the staff to better serve the southern Marin area. However, the Sheriff's Department feels that staffing is generally adequate at the present time. Future development in southern Marin will require additional staff to maintain the present level of police service.

## 2. Future Service Capability

The MVPD's existing level of service is adequate and patrol cars and staff can be added as the population grows. The Mill Valley Police Department generally maintains a ratio of 1.7 to 1.9 officers per thousand population.

Mill Valley could extend services into Homestead and Tamalpais Valley. The close proximity of the City's Public Safety Building to Highway 101 means that it is well situated to assist in serving communities to the south and east of Mill Valley.

The Sausalito Police Department is adequately staffed to meet present and future police protection needs of the City. If Marin City were to be annexed or contract with Sausalito for police protection, additional police officers and equipment would be needed.

The Tiburon Police Department sees no difficulty in absorbing the areas within Tiburon's sphere of influence. The relatively small area of the peninsula permits the Police Department to respond to the majority of calls within five minutes.

*Unincorporated Areas.* The type of future development in unincorporated southern Marin will dictate what is required to service the area.

## F. MARIN COUNTY SHERIFF'S DEPARTMENT

Marin County Sheriff's Department. When necessary, the Marin County Sheriff's Department provides police protection in unincorporated areas, operates the County Jail, and provides traffic enforcement. The Department is divided into two Bureaus, the Bureau of Support Services and the Bureau of Field Services. The Bureau of Field Services is comparable to a Police Department. This Bureau provides all of the services that a police agency does, except for traffic accident investigations.

The California Highway Patrol provides traffic enforcement in the unincorporated areas. The Sheriff's Department will provide this service if called upon. This Bureau has four divisions: Patrol Division, Detective Division, Communication Division, and Volunteer Services.

*Patrol Division.* The Patrol Division has 59 full time sworn Deputies, ten Sergeants, four lieutenants, and one Captain who is in charge of the Bureau. Three lieutenants are assigned as watch commanders and are on duty eighteen hours of the day. The watch commanders oversee all the Divisions in the Department when the Division Commanders are not present. The watch commanders are also Mutual Aid coordinators. The deputies and sergeants are assigned throughout the four substations within the unincorporated areas of the County. The on-duty Watch Commanders will allocate the manpower distribution throughout the County's jurisdiction each shift. Considerations include, but are not limited to, calls for service, special details, and/or criminal activities.

*Special Units.* There are four specialized units within the Patrol Division, a Dive Team, Special Response Team (SWAT), Canine Unit, and Marine Patrol Unit utilized to patrol the Unincorporated Bay Waterways.

*Investigations Division.* The Investigations Division has six detectives, two sergeants, and one lieutenant in charge of the unit. There are three specialized units in this Division, Juvenile, Child Abuse, and Photography - Physical Evidence Unit which works closely with the District Attorney's Office.

*Volunteer Services Division.* The Division of Volunteer Services consists of five units, ten Patrol Reserve Deputies, 32 Sheriff's Mounted Posse members, 15 Marin patrol members, 16 Air Patrol members, and 33 Search and Rescue members. These specialized units augment Patrol Division with personnel and equipment when the need arises.

*Communication Division.* The Communication Division consists of sixteen Communication Dispatchers, eight Assistant Dispatchers, five Supervisors, and one Communications Division Chief. The Division dispatches for six Fire Departments and coordinates all fire mutual aid requests. The Division dispatches for paramedics and all emergency ambulance requests throughout the County. The Law Dispatcher dispatches for the Department's Patrol Division and the College of Marin Police Department. The Communications Division also coordinates all police mutual aid and road block requests.

## **VIII. OTHER COMMUNITY FACILITIES**

### **A. SCHOOL FACILITIES**

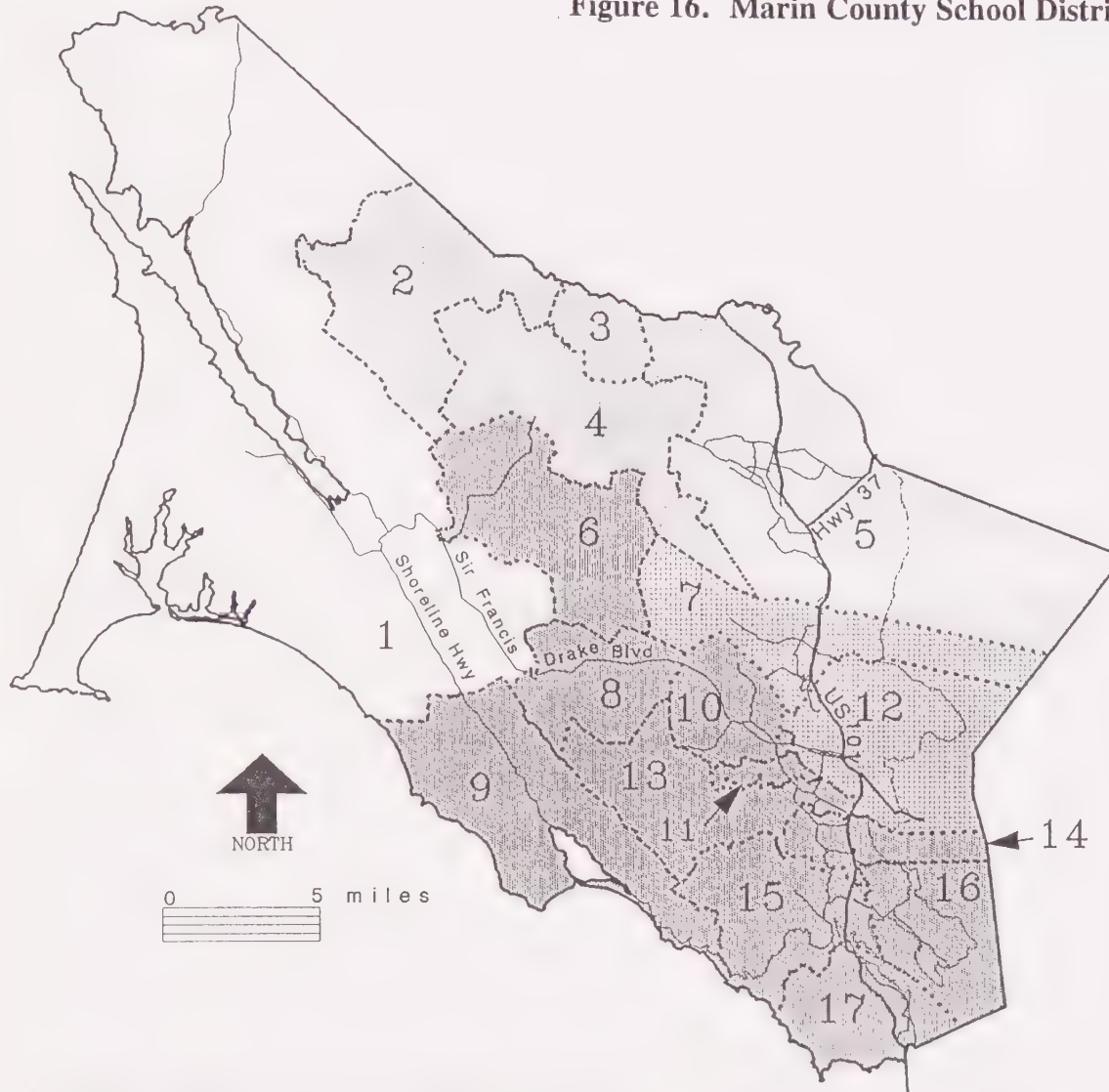
This section outlines general trends in school enrollment and identifies existing school facilities in the 15 elementary school districts, two high school districts, and two unified school districts (K-12) in Marin County (see Figure 16). Enrollment in public schools has fluctuated a great deal over the past ten years. The late 1970s showed a decrease in enrollment which continued until the mid-1980s. The drop in the number of school children caused seven districts in Marin County to close schools. Some districts chose to lease the sites to day care centers, non-profit organizations and other uses. Other districts sold the facilities outright. There have been indications that enrollment is now on the increase. In 1986/87, average daily attendance (ADA) increased countywide for the first time in five years. Since 1985, the following elementary school districts have had a steady increase in ADA: Dixie, Kentfield, Larkspur, Ross Valley, San Rafael Elementary, and Novato Unified. The increase in the number of elementary school children is causing many school districts to consider reopening closed schools.

All four high school districts have been experiencing a decline in enrollment since 1980. ABAG projects that the number of children in the 15 to 19 age bracket will decrease steadily until the year 2005. This trend would indicate a continuing decline in enrollment but many factors may affect what actually happens.






In 1986, school districts were given authority to collect development fees and use those fees for construction of permanent facilities (California Government Code Section 65970 *et. seq.*). The development fees are only a supplement to State funds. Therefore, although the fees help mitigate the impact of new development, schools will continue to be largely dependent on State funding sources. The County has cooperated with the school districts that are collecting fees by requiring proof that these fees have been paid before issuing a building permit.



Figure 16. Marin County School Districts



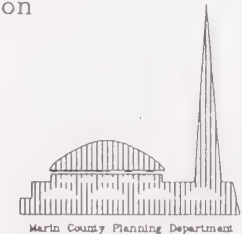
### High School Districts

-  Tamalpais Union High School District
-  San Rafael High School District
-  Marin County School Districts in the Petaluma High School District
-  Novato Unified School District
-  Shoreline Unified School District

### Elementary School Districts

- |                         |                |
|-------------------------|----------------|
| 1 Shoreline             | 10 Ross Valley |
| 2 Laguna Joint          | 11 Ross        |
| 3 Union Joint           | 12 San Rafael  |
| 4 Lincoln               | 13 Kentfield   |
| 5 Novato                | 14 Larkspur    |
| 6 Nicasio               | 15 Mill Valley |
| 7 Dixie                 | 16 Reed Union  |
| 8 Lagunitas             | 17 Sausalito   |
| 9 Bolinas-Stinson Union |                |

This map was developed for General Plan purposes.  
The County of Marin is not responsible or liable  
for use of this map beyond its intended purpose.



In Marin County, the following school districts are collecting development fees: Kentfield, Larkspur, Mill Valley, Reed Union, Ross Valley, San Rafael Elementary, and Novato Unified. Collecting the fees will enable the school districts to build new facilities or expand existing facilities in order to accommodate projected growth. Projections by the school districts may take into consideration enrollment trends and pending development projects as well as age-specific population projections.

## B. CHILDCARE

There has been a continual increase in the need for childcare, both at the national and local level. This need has arisen from an increase in the number of women in the work force, often a result of single-parent households or two-income families. In Marin County, nearly 32,000 families have working mothers. Half of these families need some form of childcare. The other half may share childcare responsibilities with spouses, have flexible hours, work at home, or have some other arrangement which does not involve child care (Project Care for Children) (see Figure 16).

State licensing agencies recognize two kinds of child care facilities: child care centers and family day care homes. Local governments must recognize the difference in regulating child care facilities as land uses. A child care center is defined as a facility with more than twelve children. Residences generally do not qualify. A child care center is licensed by Community Care Licensing, State Department of Social Services, Santa Rosa Regional Office. A family day care home is defined as regularly provided care, protection and supervision for twelve or fewer children in the caregiver's own home.

The primary caregiver must live in the home and be present at least 80% of the time. The County of Marin Department of Social Services is under contract with the State Department of Social Services to license family day care homes.

State law (SB 163) makes a distinction between small family day care homes (less than six children) and large family day care homes (seven to twelve children). Under SB 163, the use of a residence as a small family day care home is considered a residential use of property for purposes of all local ordinances. This means that small family day care homes are allowed in all residential zoning categories. No city or county may require use permits, business licenses, fees or taxes for operating a small family day care home.

The Marin County zoning ordinance allows residential uses (including small family day care homes) in all non-residential zoning categories, with a conditional use permit. Other child care facilities (more than six children) are allowed in all zoning categories, with a conditional use permit. No clear distinction is made between the family daycare

home and a child care center. All day care facilities with more than six children are subject to a conditional use permit. The Marin County zoning ordinance does not discourage the provision of child care, since child care facilities are allowed in all zoning classifications (subject to a conditional use permit in non-residential categories). However, the cost of the use permit is high, due to the high cost of processing applications and noticing property owners.

In Marin County, there are 8,202 children in licensed child care programs. Of these, 698 children are under two years of age, 5,169 are between the ages of two and five and 2,335 are over six years old. There are a total of 6,593 licensed child care slots. Since many children are in part-time care, the number of children is more than the number of slots. Most of these children (6,631) are in child care centers, while the remaining 1,571 are in family day care homes (see Table 6). There are 744 vacancies, mostly in preschool programs. Despite the number of vacancies, waiting lists may exist at individual facilities, especially those facilities which can provide subsidies.

Since nearly 15,000 families in Marin have need for some form of child care, nearly 7000 children are unaccounted for in the Table 6 total. These children may be cared for by relatives or friends or for in license-exempt or unlicensed situations. Others may be latch key children, going home alone after school. An area of concern in the provision of child care is affordability.

**Table 6. Marin County Children in Licensed Child Care Programs**

Age of Child	Family Day Care Home	Child Care Center	Total for Age Group
Under 2 years	408	290	698
2-5 years	851	4,318	5,169
6 years and over	312	2,023	2,335
<b>Total in Program</b>	<b>1,571</b>	<b>6,631</b>	<b>8,202</b>

Source: "California Inventory of Child Care Facilities" issued by the California Child Care Resource and Referral Network, San Francisco, February 1987.

Little subsidized care is available in Marin County and child care costs in the County are the highest in the Bay Area. A child care scholarship program called the Marin Child Care Trust Fund was funded in 1988 by the Marin Community Foundation. This program will provide financial support for low- and moderate-income families who need child care.



One of the main factors in the ability to provide affordable child care is the cost of the facility itself. Many child care centers are located in closed school buildings which have been leased from the district. This arrangement may provide affordable rents in suitable facilities for the short term but may pose problems over the long term if the school district decides to reopen the school and evict the child care center.

Employers are beginning to recognize the benefits of ensuring that employees have access to quality child care. There have been many different approaches, all based on the premise that employees will be more productive if they feel secure about the care of their children. In addition, many employers feel that the employees stay at the job longer and have lower rates of absenteeism if child care benefits are provided. Some of the benefits currently being offered by employers include the following:

- Flexible sick leave or family sick leave
- Tax free payroll deductions for child care
- Flexible work hours
- Cash payment of unused benefits which can be used for child care
- Direct cash payment
- Child care facility on site

Some local governments are providing or considering child care benefits or requiring developers of commercial and industrial facilities to provide child care or pay mitigation fees. Sonoma County has built a child care facility with 80% of the slots reserved for County employees and the remaining 20% open to the public. In Contra Costa County, developers must submit a child care needs assessment and show that they intend to meet the need. The City of San Ramon is collecting development fees to offset the impact of new development on existing facilities.

## C. LIBRARIES

The Marin County library system serves all of the unincorporated areas and the cities of Corte Madera, Belvedere, Tiburon, Ross, Fairfax and Novato. The system has 11 branches and a bookmobile, serving retirement and convalescent facilities, six West Marin schools, and 14 unincorporated residential areas; an outreach van; and literacy programs.

In addition to the County library system, there are five municipal libraries including Larkspur, Mill Valley, San Anselmo, San Rafael, and Sausalito. The municipal libraries receive funding from the cities' general funds.

A jurisdiction may receive money from the State of California if there is an imbalance in library use between users who are residents of the jurisdiction and those who live elsewhere. For example, Mill Valley receives money from the State because a high proportion of the people utilizing the library do not live in the City of Mill Valley. This form of compensation makes it possible for residents to use any library in the County, regardless of where they live.

In the spring of 1984, a consultant was hired to evaluate libraries in Marin County and develop a plan for improving service. The study was a joint effort between the municipal libraries and the County library system. It was funded through the San Francisco Foundation. The study found that library services were below minimal standards for service due to the following factors:

- inadequate income;
- limited hours;
- Inadequate computer system; and,
- Limited facilities.

The 1985 study outlined goals and objectives in order to improve the quality of library service in Marin County.

One of the most important needs identified was the need for relocation of the Marin County Free Library headquarters. The headquarters office is located (as of 1991) in the Civic Center, where space is inadequate. The need for a new headquarters has reopened discussion regarding the functional consolidation of the San Rafael Public Library and the County library headquarters. If a functional consolidation were to take place, a new branch would be opened and located in North San Rafael, possibly Terra Linda. Relocation has been delayed, due to lack of funding sources.

Steps have been taken to implement the goals identified in the study. The Belvedere/Tiburon library is now open six days a week, the Inverness library has moved and nearly doubled in size and the San Geronimo library has been relocated and expanded. The County library is upgrading the computer system as resources allow.

#### D. SOLID WASTE

Garbage collection in the county is governed by 22 franchising agencies. They include ten of the eleven cities, eleven special districts, and the County. Each agency franchises with one of seven private haulers, with the exception of one special district that provides its own service.

Two permitted landfills operate in the county. They are Redwood Landfill north of Novato and the West Marin Landfill north of Point Reyes Station. Both are privately owned and operated. In 1990, about 256,000 tons of waste were disposed of at the two facilities. Most of the waste (97%) was disposed of at Redwood Landfill. Recent projections estimate that 3 million tons will be disposed of at these landfills over the next fifteen years, even with aggressive recycling and composting efforts.

In addition to disposing of solid waste, Redwood Landfill disposes of non-hazardous sewage sludge. In 1990, Redwood accepted 173,000 tons of wet sludge, dried it, and then disposed of the 59,000 dry tons in the landfill. About six percent of the sludge was from treatment plants in the county. The remainder was from treatment plants throughout the Bay Area.

The current solid waste facility permits for each landfill do not indicate their capacity or life span. Redwood Landfill has applied for permit revisions to make improvements to the landfill that would increase its capacity. It is anticipated that the improvements may provide disposal capacity well beyond the year 2000. Similarly, the West Marin Landfill is expected to have remaining capacity beyond the year 2000. Increased recycling and resource recovery activities throughout the county are expected to extend the life span of both landfills.

Collection of separated recyclables is available to most single-family residences, some multi-family complexes, and many commercial districts throughout the county. Most of the collected materials are processed at the Marin Recycling Center in San Rafael. Additional resource recovery services are also provided at the Marin Resource Recovery Facility in San Rafael. These facilities are also privately owned and operated.

The county's waste management system is further described in the draft Source Reduction and Recycling Element, an element of the County Integrated Waste Management Plan which is being prepared in accordance with the California Integrated Waste Management Act of 1989 ("AB 939"). The Element outlines a course of action for meeting the State's mandate of diverting 25% of the wastestream from disposal by 1995 and 50% by the year 2000. Diversion may include source reduction, recycling, composting, and limited transformation, such as wood incineration. In 1990, city-specific diversion rates ranged from 16% to 36%. Once approved by each city, the Element will become part of the County Integrated Waste Management Plan.



## E. HAZARDOUS WASTE

The County has sponsored collection days for household hazardous waste for Marin County and its cities since 1986. In addition, several private facilities provide year-round drop-off areas for specific recyclable materials, such as motor oil, car batteries, and latex paint. Wastes collected at the collection days and drop-off facilities are recycled, treated, or disposed of at facilities outside the county. The County is working towards establishing a permanent program that will more effectively collect and recycle household hazardous waste throughout the county. The current program and plans for future programs are described in the draft Household Hazardous Waste Element, which, once approved by each city and the County, will also become part of the County Integrated Waste Management Plan.

## F. HOSPITALS

Marin County is within the Marin County Health Facility Planning Area, established by the Office of Statewide Health Planning and Development. Within the planning area are three acute care hospitals. These are Marin General, Kaiser Foundation, and Novato Community Hospital. The Ross General Hospital was closed in February, 1988, and plans to redevelop the site (possibly as a residential use) are expected.

Marin General Hospital is located in Kentfield and has 235 beds. A 100,000 square foot addition was completed in 1989. The new space contains a surgical suite, beds and an intensive care unit. Kaiser Foundation Hospital has 120 beds and plans to add an additional 50 within the next 15 years. Novato Community Hospital has 75 beds.

The Statewide Health Facilities and Services Plan (1985) indicates that Marin County has a significant excess of acute care hospital beds. The rising cost of health care has caused a shift to shorter hospital stays, and more outpatient facilities. Thus, the need for hospital facilities is not expected to increase significantly.

## G. GAS AND ELECTRIC SERVICE

Pacific Gas and Electric (PG&E) provides gas and electric service to the residents of Marin County. The demand for electricity is approximately 264 megawatts (MW) during the winter. The demand is growing at a 2.2% growth rate. If no improvements were made to the delivery system, capacity would be reached in 1993. However, this estimate is theoretical because improvements are made on a continuing basis.

In addition to maintaining adequate capacity, PG&E has a program to underground existing electrical lines. Several undergrounding projects started construction in September, 1988. These include:

- Larkspur, Magnolia/Bon Air Road
- San Rafael, Lindero, and 2nd Street
- Marin County, Redwood Frontage Road.

Other undergrounding projects began construction in 1989.

There are no problems anticipated in providing gas and electricity in Marin County.

## H. TELECOMMUNICATION

Telecommunication is the transmission of information from one point to one or more other points using radio frequency signals. Transmitting antennas are used to broadcast or direct a radio frequency signal which is picked up by receiving devices such as receiving antennas, television sets, radios, car telephones, or pocket pagers.

Among the users of telecommunication facilities are cable television companies. There are three companies which provide cable television service in Marin County. These include: Viacom Cablevision, Chambers Cable, and West Marin Cablevision. Viacom Cablevision serves southern and central Marin, Chambers Cable serves the Novato area, and the west Marin area is served by West Marin Cablevision.

The accommodation of demand for telecommunications products and services has critical implications for land use policy in Marin County. These implications vary, depending on whether the telecommunication facilities are a major use on a property, such as a transmitter tower site, or a minor use accessory to a residential or commercial development, such as satellite dish antennas for single-family residences. Many telecommunications facilities must be located on ridgetops in order to be effective. The siting of these facilities may be in conflict with the ridge and upland greenbelt policies contained in the Countywide Plan. However, the County must accommodate telecommunication facilities and mitigate their potential adverse impacts by regulation for two basic reasons:

- Such facilities are necessary for quality of life and economic well-being of people in Marin County because telecommunication facilities provide necessary services ranging from radio and television to radio communication with emergency response vehicles; and,
- Federal and State regulations would not allow total prohibition or unreasonable regulation of telecommunications services.



The Federal Government has primary regulatory power over telecommunications facilities through its powers to control interstate commerce. The Federal Communications Act established the Federal Communications Commission with authority to preempt local regulations prohibiting or discriminating against building or expansion of telecommunications facilities. Through the California State Public Utilities Commission (CPUC), the State of California also regulates some telecommunications facilities which are considered public utilities. The Commission's primary interests include determining the necessity for the service, operating in compliance with State regulations, approving fee schedules, and serving as lead agency for environmental review. The CPUC maintains that local jurisdictions cannot prohibit or restrict utilities such as cellular phone installations. Local regulations can prescribe land use and construction guidelines for telecommunications facilities, but cannot prohibit the use of a site if there is no reasonable alternative site. The FCC and the CPUC can prevent local decisions through commission orders, orders which have the force of law and can force violators to court.

Due to the tremendous increase in demand for telecommunications products and services, Marin County has prepared a Telecommunication Facilities Policy Plan. This Plan contains policies and information about telecommunications facilities potential impacts. For more information, please refer to this plan.

#### I. TELEPHONE SERVICE

Two phone companies, Pacific Bell and General Telephone Company of California, provide basic telephone service in Marin County. General Telephone serves the Novato area and Pacific Bell serves the remainder of Marin County. Residents may choose between several long distance companies, as best meets their needs.

#### J. JAILS

There are two adult detention facilities operated by the Marin County Sheriff's Department. The main jail is located in the Civic Center and houses both male and female adults who are either awaiting trial or already sentenced. The bed capacity at the Civic Center jail is 110 (95 for males and 15 for females). The other facility is an honor farm (located near the Las Gallinas Valley Sanitary Treatment Facility) housing minimum security males and females. The bed capacity for this facility is 153 (130 males and 23 females). Altogether, the County has a total capacity of 263 beds.

In 1984, the Board of Supervisors formed the Jail Policy and Planning Committee (JPPC) to oversee the planning for a new jail facility. The group consisted of the County Clerk, Assistant County Administrator, Sheriff, Chief Probation Officer, Director of Health and Human Services, and Municipal Court Administrator. The



JPPC adopted prison population estimates, prepared by the Ehrenkrantz Group in March, 1986. These estimates called for 191 medium security beds and 200 minimum security beds, for a total of 391. Amidst heated controversy, plans are now underway to construct a new jail facility.

U.C. BERKELEY LIBRARIES



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